PROCEEDINGS OF THE SPECIAL STUDY INSTITUTE

EFFECTS OF PRE-SCHOOL SERVICE FOR DEAF-BLIND CHILDREN

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Proceedings of the
Special Study Institute

EFFECTS OF PRE-SCHOOL SERVICE
FOR DEAF-BLIND CHILDREN

June 16-20, 1969

Canterbury Hotel
San Francisco, California

Edited by
Philip H. Hatlen
Associate Professor of Education
Department of Special Education
San Francisco State College

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EFFECTS OF PRE-SCHOOL SERVICE FOR DEAF-BLIND CHILDREN

INTRODUCTION

In the past few years, numerous programs have begun throughout the United States in an attempt to provide developmental opportunities for children visually impaired and auditorily impaired as a result of rubella. Most of these programs have been geared specifically to children at a pre-school age, usually between the ages of three and five. These efforts were prompted by the recent epidemic of rubella which resulted in a serious increase in the population of deaf-blind children.

Efforts to serve these children have, fortunately, begun early. It is a credit to the medical profession, social work, education and other related services that efforts to help these children during their early developmental years begin quickly. We have not always done so well.

This Institute was proposed by San Francisco State College and subsequently funded by the U. S. Office of Education because it was felt that there was a need to bring together those who have been working in a variety of capacities with pre-school deaf-blind children within the past few years. Efforts to work with these children have been experimental. Therefore, there is no pattern or no recognized successful educational and/or developmental procedure on which professionals could rely. Each teacher and each program developed its own techniques and strategies in working with pre-school deaf-blind children. The Institute intended to and indeed succeeded in bringing together a number of people to share experiences, theories, ideas, successes, and failures in their efforts with pre-school deaf-blind children. As is apparent in the list of participants, educators and professional personnel from a variety of disciplines were represented. Also, U. S. Office of Education funding made it possible to bring together representatives from many areas of the country.

For the speakers and participants it was a hectic, busy week. Little opportunity was afforded for discussion, as the major portion of each day was occupied by presentations by various services and programs. The major purpose of the Institute was to present the descriptions of as many existing programs as possible. In order to accomplish this in one short week, it was necessary to rely heavily on rather formal presentations from many individuals.

Speakers will note that very little editing was done on any of the presentations published in the proceedings. It was felt that each paper represented a particularly unique and thorough description of one program, and that while editing might have resulted in a more manageable publication in terms of size, it would have seriously limited the thoroughness of each presentation.

Those who carefully read this publication will note that many past and ongoing efforts to help pre-school deaf-blind children in their early developmental years have followed similar paths. It was feared, in fact, that the program format would result in a great deal of duplication from presentation to presentation. However, this was not the case at the Institute, nor is it true of these proceedings.

Approaches differ, emphases differ, style of presentations differ, and much can be learned from one or two or more speakers whose curriculum concerns were similar but whose approaches were quite different.

Grateful appreciation is extended to the U. S. Office of Education for its support of this Institute. It should also be noted that Miss Josephine Taylor, the Area Coordinator in the Education of Visually Handicapped Children and of Multi-handicapped Children for the U. S. Office, found it possible in her busy schedule to be present and contribute in many ways to the Institute. The Institute director gratefully acknowledges the many contributions of the Institute co-director, Miss Eileen Jackson, Associate Professor of Education, San Francisco State College. Miss Jackson, who is the Area Coordinator in Education of Deaf-Blind Children at San Francisco State, was instrumental in the organization and success of the conference. Also, the Institute's secretary, Miss Colette Salaun, was present during the entire week and facilitated the necessary paper work and other business arrangements for the Institute. She provided much time and help both preceding and following the Institute and deserves the thanks of all participants. Finally, to all who attended as speakers and as participants, it is hoped that this Institute provided you opportunities to share experiences, to learn from one another, and to return to your responsibilities and your continuing work with deaf-blind children with renewed enthusiasm and expanded approaches to working with these children.

ARE WE HONEST WITH PARENTS?

Philip H. Hatlen
Associate Professor of Education
Department of Special Education
San Francisco State College

To be a parent is to be someone special and despite what some may say, parents are a very special, blessed people. To a mother, her child is her legacy, her immortality. A father looks at his son and thinks, 'because of you, I will live forever'. There is no more demanding job on this earth than to be a mother and father and to parents, life has no greater reward.

No teacher was more critical of parental attitudes toward a handicapped child than I as a beginning teacher. I had read all the books, and had memorized the categories of negative attitudes which parents might show toward their blind child. I had been enlightened about what a terrible, unhealthy environment the home was for the blind child. I categorized and chastised every parent I met. I was so certain I knew which was the rejecting parent, the guiltridden parent, the over-protective parent.

I think I became a professional the day I began to realize what parenthood is all about. We live our lives vicariously through our children. All our old dreams and fantasies are reborn in them. No longer do I have to sit in front of a television set and become John Havlicek winning a game for the Boston Celtics, or Bart Starr throwing the touchdown pass, or Arthur Ashe winning the Wimbledon; I have two boys of my own, and they're all the things I never was. They may never be a Denny McClain, but they play some good baseball in Little League.

What will a father do when he is told his child is deaf, blind, neurologically handicapped, and mentally retarded? What will he do with the old baseball glove he has been saving? What of the plans for the basketball backboard on the garage door?

Ladies and gentlemen, this is where we come in. Into a family devastated, destitute, and torn asunder by the birth of a living, breathing human being who needs their love so desperately and seems so terribly handicapped.

You are a pre-school worker. You receive a call from the mother of a four-year-old child, deaf and visually impaired from rubella. You visit the home. You see a child who looks to be a two-year-old, not four. The child is in a crib in diapers. He does not walk, which is not surprising, for his weak and spindly legs couldn't possibly support the weight of his body. His only nourishment is from a baby bottle, which he accepts only reluctantly. His only movement seems to be to flutter his fingers in front of his eyes. He smiles as he does this and seems almost in a hypnotic trance. When you put your finger in his hand, he does not grasp it, he pushes it away in anger and screams. His only sound. If he's aware of anything outside the little world he's created within himself, he does not show it.

The mother looks hopelessly tired and resigned. While her eyes seem to be asking for help desperately, there is also a defensiveness, a rigidity, shallowly hidden beneath the surface that acts as a warming light. Don't tell this poor, weary, disillusioned mother to expend more time and energy on her child. She already gives so much and receives so little in return. Many deaf-blind rubella children seem to share the characteristics of little response to affection, or no differentiation in response between strangers and parents.

You and I know that it will take countless hours of undivided attention to this child if he is to grow and learn and respond. Is this parent capable of giving anymore of herself? Are there other children who also need their mother? Is there a husband who is growing short of patience and understanding for his mourning wife? Is a marriage on the brink of failure because of this child? Are you going to tell this mother that her child has a chance, just a chance of becoming a responsive, communicative human being, capable of a self-fulfilling joyous life, if, and only if, she spends every waking minute exposing him to language and experience?

Or are you going to tell this mother what we have been telling mothers of blind children for years: "Treat your child as though he were normal, and he will be normal". This is not true for blind children, and much less true for the deaf-blind child. If this mother gives the same amount of time and attention to her deaf-blind child as she does for her other children, chances are she will have a child who is either a wild, hyperactive, uncontrollable animal or an object, unresponsive, passive, a living, breathing lump on the floor of the playpen.

What we really mean to say to parents is: "Expect the same behavior from your blind, or deaf-blind child as you do from your other children'. This does not imply that the same amount of time or effort will suffice. It simply means that, under optimal conditions, the deaf-blind child is capable, for example, of learning to walk at about the same age as other children.

But parents have neither the understanding, time, energy, nor the experience to provide these optimal conditions. No one on this earth has all the answers, but some of us, by virtue of experience, knowledge of growth and development, understanding of the effects of extreme sensory deprivation, and maybe more important than anything else, empathy for the family so helpless in turmoil, can provide the chance this child deserves.

I once discussed with a group of parents of deaf-blind children the fact that educators have not been able to communicate to parents the need for some level of realism in their expectations and hopes for their child. I have seen most often either unwarranted hope or just as unwarranted resignation and hopelessness among parents. Both are wrong, very wrong and may do a grave injustice to the child.

Unrealistic hope and high expectations for a severely handicapped child, who at this particular time, gives no indication of responding socially, and certainly not academically, probably creates more frustration, anxiety and unhappiness in parents than any other attitude toward their child. Neither you nor I can say that the four-year-old deaf-blind rubella child with whom we are concerned will ever go to college, will ever become a professional in the community or for that matter, will ever reach a point in which communication with other human beings is well established. To indicate that such is the potential case is to do a grave disservice to parents who are, at the time, eagerly looking to the professional for something to grasp and cling to as they confront their unresponsive, untrained, non-communicative child twenty-four hours a day.

I have known parents who, when their blind child learns his first word in braille, begin making plans for college. I am aware that to some extent this attitude is healthy because children often will react accordingly when high expectations are placed upon them. On the other hand, there are children who may be the victims of extreme unhealthy, devistating pressure by parents who simply do not understand and are not willing to face the handicaps in their own child.

The other extreme, the complete absence of any hope, the feeling that the current level of functioning in their child may be his destiny for life is just as harmful, just as deteriorating to the child. Probably among blind children, this latter rejection of hope is much more common. The teacher working with a primary level blind child, who observes that the child is most content, most happy when listening to a record player, or while rocking, or when totally withdrawn, or when accomplishing very basic tasks in a manner which indicates very specific training, should be very aware of the possibility that this is a child who has spent most of his waking hours, days, months, and years as a pre-schooler, alone, with no stimulation or motivation in his environment. The parents probably gave up at an early age as far as any hope for their child's growth. There was no attempt made to help him become a responsive, aware, curious, stimulated infant. Rather, it was much easier to leave him in his crib, or playpen and let him amuse himself in whatever ways he found. Without vision, and certainly without vision and hearing, this becomes a very limited kind of self-stimulation which we have all seen in visually handicapped and deaf-blind children.

Somewhere in the middle, somewhere between the hopelessness and despondency of the parent incapable or unwilling to stimulate his child in any way, and the completely unrealistic, unwarranted expectations of the parent who wishes his child a genius, is a realistic, healthy attitude, probably characterized by short-term immediate objectives. The secret is to not accept the status quo, and to not look beyond today or tomorrow in setting goals.

Parents and, to a certain extent, teachers too, are often guilty of considering children in terms of long-range goals. The fun made of fathers who run out to buy a college sweatshirt for their newborn son should probably be taken more seriously in terms of parents' expectations and long-range goals for their own children. I would guess that there is not a parent alive today who doesn't have hopes of his children attending college, receiving as much education as possible, and "amounting to something" more than his father.

This goes beyond what was mentioned earlier with respect to the father's dreams of his son's achievements in athletics. It is almost a built-in American tradition to want more for your children, particularly in the way of material things and position, prestige, etc., than you have yourself. Teachers, too, are guilty of looking far beyond the immediate needs of children and gearing their approaches to children in terms of long-range goals and objectives. It's almost redundant to add that administrators, too, are guilty of this. As a school principal, I often found myself reprimanding an adolescent student with phrases such as, "If you continue this kind of behavior, what will become of you in ten years?" The young students to whom I said these words countless numbers of times could have cared less, at the moment, what they would be doing ten years hence. Their future, to them, was the happenings after school that day, or the next day or possibly the next week, but not much beyond that. We should take our lead from the children who are so content with short-range goals and base our expectations in these terms.

The teacher of pre-school deaf-blind children has the seemingly impossible task of, first of all, convincing the parents that the immediate need for their child is not to learn to read or to learn to factor fractions, but possibly to learn to feed himself or to learn to use the bathroom. These are short-term immediate goals, which, according to my definition, are as much a part of our educational responsibility as that of teaching arithmetic. The second almost insurmountable responsibility of the teacher is to help parents become elated, excited, ecstatic about the fact that their child is beginning to feed himself or beginning to signal when he needs to go to the bathroom or beginning to respond with affection or beginning to repeat sounds.

How do we convince the parent of a three or four-year-old deaf-blind child that the achievement of his child responding in a relevant way to a concrete object in his environment is every bit as exciting and wonderful as the young student who first discovers the meaning of the Pythagoras' theorem. No teacher with any real responsibility and professional competence will ever suggest that the parents of a four-year-old deaf-blind child should set their sights on college for their child, nor will this teacher suggest that their child has achieved as much as he can. The teacher must determine the level of functioning of the child at any given time and suggest to the parents what the immediate goal or objective in his educational developmental process would be, and then in joint cooperation with parents set about to achieve it.

The excitement which accompanies success on these minute developmental steps should permeate the atmosphere and affect the child, the parents, the teacher and all others who come in contact with the child. I know parents who become excited about the apparently small gains made in very irregular patterns in their child. I've seen parents with tears in their eyes when their child took his first step, sometimes not until age four. But I've also known other parents who cannot accept the fact that short-term day-to-day, and week-to-week objectives in the educational process are most appropriate for their child.

To even suggest that educational services for deaf-blind children should be based on the potential economic and sociologic return to society by these children is ridiculous. To suggest that every deaf-blind rubella child deserves an opportunity in as intensive an educational program as possible for as long as possible will, in the long run, return more to society than the kinds of unrealistic goals on which education has been operating for many years.

What kind of program will best meet the needs of the pre-school deaf-blind child? I do not know, but I know on the basis of the parents' desperate need for help, and I know on the basis of the need to establish short-term goals which will provide relatively quick feedback to the parents and the child, and I know on the basis of the injustices that we have done to children in the past that these services must be begun as early as possible while the child is yet an infant and must be concentrated enough so that the professional is operating in a capacity which is more than advisor.

I suppose that I would suggest that for at least several hours each day, five days a week, professional intervention be provided directly to each pre-school deaf-blind child. If I had my choice, I would prefer to see this happening in the home with mother and father observing closely and being encouraged to participate. The degree to which the environment must be brought to the deaf-blind child, the degree of which every waking hour should be filled with motivating, stimulating, exciting, concept developing experiences cannot be underestimated. The degree to which parents along can provide this should be recognized and professional help commensurate with the need provided.

In working with parents, our charge is to be concrete--above all to be concrete and specific. We must temper hope with realism, dispel despair, and avoid predictions.

A PRE-SCHOOL PROGRAM FOR DEAF-BLIND CHILDREN IN THE PORTLAND METROPOLITAN AREA

Helen Stricklin, Supervisor
Program for Visually Handicapped
Portland Public Schools

Raymond S. Myers, Consultant
Education of Visually Handicapped
Oregon Board of Education

INTRODUCTION

The Oregon Board of Education and Portland Public Schools has since June 1968 conducted with Title VI funds a series of three projects for pre-school deaf-blind children. This is an account of the events which preceded the projects, a description of each project, and a summary of possible future programs or services. Each of these project proposals was written jointly by Mrs. Laura Zetsche, Parent and Pre-school Counselor, Portland Regional Facility for the Blind; Miss Helen Stricklin, Supervisor, Program for the Visually Handicapped, Portland Public Schools; and Mr. Raymond S. Myers, Consultant, Education of Visually Handicapped Children, Oregon Board of Education. The Portland Regional Facility for the Blind is a 100% State-funded program which provides teaching services on an itinerant basis to legally blind children residing in the greater metropolitan Portland area. This program is administered by the Portland Public Schools.

The term "multi-handicapped" certainly describes the children included in these programs; however, because of legislative and program regulations, the term "deaf-blind" is used in this paper and in the project proposals. Many of these children have handicaps in addition to serious visual and hearing losses. For example, in the first summer project, the following additional handicaps had been suspected or diagnosed among the participants: congenital heart defects, neurological abnormalities, mental retardation, cerebral palsy, and osteopetrosis.

It is necessary, I believe, to provide the reader with a brief description of the provisions for deaf-blind which existed in Oregon and the events which took place prior to the advent of the special projects.

The legislature has designated the Oregon Board of Education as the State agency responsible for the education of deaf-blind children, and each session appropriates funds to be used by the Board for the education of such children. Until very recently, the total number of deaf-blind school age children residing within the State was never more than three. Since it was considered economically inadvisable to provide programs and since there were so very few trained teachers available, the Board sent these children on a tuition basis to the Deaf-Blind Department of the Washington State School for the Blind.

This arrangement was quite satisfactory because the Washington School for the Blind is located in Vancouver, which is only a 15-minute drive from downtown Portland. Furthermore, almost one-half of Oregon's population resides in the greater Portland metropolitan area, and most of these children would live in this region.

Although we were well aware that there would be many handicapped children as a result of the Rubella epidemic of 1964-65, a significant number of these children were not called to the Board's attention until early 1968. Mrs. Zetsche was the first to observe a sudden increase in the numbers of deaf-blind children referred for pre-school services. This observation came at the most opportune time because the Oregon Board of Education staff was then in the process of preparing program budget requests for the 1969 session of the State Legislature. These budgets were for the 1969-71 biennium, and educators will realize that miscalculations in the amount requested can severely limit programs for several years unless emergency funds are made available. Until Mrs. Zetsche reported the increase in her referrals, we had to base our estimates upon educated guesses, which often can have little meaning to legislators who must approve budgets. Her report provided concrete information upon which to base our budget requests. It was decided to request sufficient funds to provide tuition for ten children.

It was evident that a state-wide census of deaf-blind school-age children was needed. The Oregon Board of Education established a central registry and requested information from agencies or individuals who might know children suspected or known to be seriously visually or auditorily handicapped. The information requested consisted of the child's name, birthdate, parent's name, home address, telephone number, and the name of the individual or agency who added the child's name to the registry. Information contained in the registry is readily available upon request to any cooperating individual or agency. A completed copy of the annual census is sent automatically to anyone submitting information.

The initial survey completed in July 1968 revealed the names of 23 children and brought about a sudden awareness of a rapidly-developing crisis. This caused the Oregon Board of Education and Portland Public Schools' staff to begin planning for these children and their parents' immediate and future educational needs. A second annual survey has just been completed, and it includes three additional names which brings our total number to 26. Although this total number may be small when compared with 240 such children that Dr. Berthold Lowenfeld found in his study of multi-handicapped blind children in California, it certainly appeared significant to most Oregonians. Numbers alone, however, do not necessarily present a clear picture of the challenge facing each state. Less populated states often do not have the resources that are usually available in more populated areas. This is one of the reasons why federal funds have been so beneficial.

Passage of Public Law 89-750, Title VI, and the appropriation of funds for handicapped children late in the regular school year suddenly made available $128,794 in Oregon. This appropriation was for the fiscal year ending June 30, 1968 and had to be spent August 30. Although we had practically no experience with deaf-blind children, we prepared the proposal for the first summer program. We were convinced that education begins long before the age at which most children enroll in school. We wanted to help parents capitalize on the important pre-school years of their child's life and to help them by providing guidance which would assist them in understanding their child's particular needs and a plan of action that would enable them to interact in a positive manner with their child. We also wanted to write a proposal which provided an innovative approach that would capitalize on all the child's remaining perceptual abilities through the creative use of environment, equipment, personnel, and techniques.

These goals may have been ambitious or idealistic, but it must be remembered that we were new to this special field and did not know what would work and what would fail. One thing was certain, our enthusiasm and desire to learn from each other and the children more than made up for our lack of experience. We also had the benefit of Mrs. Zetsche's long experience in work with pre-school blind children and her keen understanding of parents and their needs. A large measure of any of our achievements is due to Mrs. Zetsche's abilities. Mr. Berhow, the Superintendent of Washington School for the Blind, and his staff were also very cooperative and helpful in all our projects.

Congressional approval and subsequent limited funding of Public Law 90-247 has encouraged the Oregon Board of Education, Portland Public Schools, and the University of Oregon Medical School staff members to participate in the preparation of a proposal to establish a Regional Service Center at the Washington School for the Blind. The proposal has recently been approved for less than one half of the amount requested, and a coordinator has been employed. We sincerely hope that Congress appropriates sufficient funds in the next few years to allow each region to provide all of the services prescribed in this legislation.

PROJECT DESCRIPTION

The summer program in 1968 was an evaluation and training program for deaf-blind pre-school children and was designed to provide meaningful, developmental experiences prior to enrollment in a more formalized program. The evaluation phase consisted of a medical and an educational work-up. The complete medical evaluations were made possible through the cooperation of the staff at the University of Oregon Medical School. Most of the children were seen at the Rubella Clinic there. At the beginning of the project none of the youngsters wore glasses or used hearing aids, but as a result of these examinations, glasses were prescribed for six of the eight children and six of them also procured hearing aids.

An evaluation of the educational needs and potential of the children was possible because the staff included two certificated teachers of deaf-blind, Mrs. Ruth Richardson and Mr. Gerald Brown; a coordinator who was a qualified child development specialist with long experience in working with visually impaired children, and a teacher who had experience in teaching blind children and deaf children.

The developmental aspect of the project consisted of an eight-week day school program. The eight youngsters, ranging in age from 17 months to 7 years, were transported by a small bus from their homes in the Portland Metropolitan area to the center every day for a two-hour session. There was a morning and an afternoon group. The younger children who napped in the afternoon were scheduled to participate in the morning while the more able and ready children were placed in the afternoon session.

Under the direct supervision of the teachers, an intensive pre-verbal communication development program was planned for each participant. Included in these activities were individual instruction in the vibration method, activities designed to develop an awareness of and a response to other people and objects in the immediate environment, and a variety of new experiences specifically designed to promote language development so that children could start to make their wants and needs known on a non-verbal basis and could begin to follow simple directions. Teacher aides were responsible for seeing that each child received experiences in exploration of his environment, in physical development and in self-care skills. They also attended to toileting, snacks and rest time. Situations were structured in order to encourage interaction between the children--rolling balls, pushing one another in the swing, pulling others in a wagon, etc. A one-to-one teacher-pupil ratio was maintained.

Stress was placed on stimulation of the use of all sensory modalities so that the sensory input would be made more functional and meaningful. This, of course, involved a close working relationship with various sections of the University of Oregon Medical School--Crippled Childrens' Division, Out-Patient Pediatrics, Eye Clinic, and Speech and Hearing Center. Based on knowledge obtained through these sources the teacher provided external motivation for each child through planned experiences, interaction, and stimulating materials. The children were encouraged to develop their tactile and olfactory senses as tools for evaluating and reacting to their environment. Hearing training utilized both free field and amplified sound and was directed to the training of the child's attention to and discrimination of sound. Auditory training devices used included a Webster Group Hearing Aid, Phonic Ear binaural auditory trainer, music (Tijuana Brass was particularly appealing to one child), verbal directions, noise makers (of all sorts) and a piano which was used for vibration and sound.

Visual attention was promoted by activities which involved object or light following and eye-hand coordination tasks. Flashlights, Christmas tree lights, brightly colored tops, cars with lights, mirrors, etc. were particularly effective in visual stimulation. Many toys were used for eye-hand coordination such as nesting cups and barrels, peg boards, puzzles for discrimination of shape and size, Montessori materials, from boards, beads to sort or string, blocks, color cones, toys that require a twisting action, matching games, etc.

Several field trips were taken to the contact zoo, to the dairy, to a park, berry picking, and on a children's train ride.

Many of the youngsters responded only to the strongest stimuli--light, intense vibration, texture, gross physical activity, or food. These stimuli, along with approval, were utilized as motivators and, where appropriate, precision teaching techniques were employed. Every attempt was made to see that good child developmental practices were employed and that interaction with people was stressed.

Materials for each child were chosen on basis of interest and need and then a variety of methods were used to teach the child to focus on the task at hand. For development of gross motor skills, the following materials were helpful: large plastic swimming pool (both empty and filled), swing set, jungle gym, tumble tub, sand box filled with toys, tumbling mats, walkers, parallel bars, ropes for climbing, trampoline, balance beam, punching bag, step and slide, rocking horse, and packing boxes.

A concerted effort was made to have close parent involvement. The coordinator of the project, who is a social worker as well as a child development specialist, was able to provide family counseling and to give information as how to learn to make full use of appropriate community agencies.

Each parent or surrogate was expected to participate in the program once a week so that teachers could demonstrate techniques for teaching pre-language and self care skills and could provide guidelines to parents for carrying out home training activities coordinated with the school program. Here the parents had an opportunity to observe their child and other children working with the teachers and to have direct experience through participation in many of the activities. All of them became aware of the sequential nature of the teaching process and the quality of relationship with the child which motivates him to want to learn. After each teaching session, the teachers discussed each child's progress individually and suggested something definite for the parent to follow through on at home during the week. Parent meetings were held regularly.

Since transportation was furnished and a small stipend provided to cover baby sitter fees, the scheduled project meetings became a pleasure rather than an additional burden. Attendance was almost perfect except in one case where the grandmother, who, when forced to attend, slept through much of the meeting. Unfortunately, because of the time of the meetings, few fathers were able to participate. But for the most part, parent involvement was a most successful aspect of the project. Observing each other's children and sharing experiences proved to be a true morale builder. By and large, there was excellent reinforcement at home or in the institutional setting where two of the children lived. This reinforcement, of course, was very beneficial to the children.

Mrs. Zetsche, the coordinator, itemized what the teachers had learned during the program:

1. Each child was an individual who could not be taught by exactly the same methods which were effective with another child.

2. As young as 17 months the foundations of the personality are already established; patterns of defense and coping are developed. Some of these patterns are pathological and at this young age may be changed if consistent effort is applied.

3. A deaf-blind child left to his own devices, without a trained teacher to guide him and his parents constructively, will more often than not develop habits which are difficult to break.

4. In the early pre-school years the human individual learns many things very rapidly. These serve as a foundation for further learning. This period is a time to capitalize upon, making nature the ally of guided learning.

5. Obsessions often exhibited by children whose sensory input is extremely meager can be harnessed and put to use as a bridge leading to a more constructive substitute. This concept contrasts with a former conviction that obsessions must be suppressed so as to make time for the development of more desirable interests. Operant conditioning methods work well with these children.

6. The teacher must enjoy warm close contact with the deaf-blind pre-school child, such as a loving mother would enjoy with her infant. Perhaps "primitive' would be a better way of describing the relationship which, until language and speech are developed, is tactual rather than auditory or visual. Patience is a necessity in teaching these children.

7. The pre-school child, with the help of a trained teacher, may begin the use of speech reading by the tactile method at the earliest possible age, and thus approach this medium of speech naturally. If left too long, it is more difficult to approach him. Some personalities left too long unaided, may reject speech entirely.

The 1968-69 school year program did not start until the middle of October. The initial plan was to have a combination center and home instruction program. Each child would have been transported to a center for instruction for two half-days per week. In addition, the teacher would have visited each home weekly to give further instruction to the child and to provide parent guidance in reinforcing the educational program. Each child would have received at least five hours of individual instruction per week.

This program would have had several advantages over a home instruction program; there would have been opportunities for interaction between the children, there would have been easy access to a sound stimulation room, and parents would not have been required to remain at home every day of the week so that their child could receive instruction. A close working relationship with parents could still have been maintained through the work in the home one day a week. However, because of monetary considerations, a home teaching program was decided upon.

Mrs. Iris DeVere and Mrs. Joan Shank, teachers qualified in the area of teaching visually handicapped, were employed. Before starting the actual home teaching, they participated in a two-weeks intern program at the Deaf-Blind Department at the Washington School for the Blind. Consultative services from this source and from other disciplines were utilized throughout the year.

The home teaching program did not provide the children with close association and interaction with other children of their own age. Two of the girls were in particular need of this and were placed in a private nursery school with sighted children for two or three mornings a week. This was not paid for through project funds.

Since no center was used, it was necessary for the teachers to have a small portable binaural auditory trainer to use with the youngsters during their daily session together.

The foundations, laid during the summer program, were built upon and sequential activities planned in sense training readiness skills, in physical development and in learning to relate to people. Evaluations and re-evaluations, both educational and medical, were maintained.

This year's summer project has just started. The design is very similar to last year's project, with the same general goals. Methods have been changed or modified to better meet the children's needs. The staff consists of three teachers, three aides and one part-time coordinator. All the children who were with the program the first year will return, plus two children who received home instruction during the school year, one new referral and one child from eastern Oregon who has been placed in a foster home so that she might participate in the activities.

Upon completion of the summer school, the pre-school counselor will visit the homes of pre-school deaf-blind children who reside in Oregon outside the area served by the day program. The parents will receive information on services presently available to their children and services contemplated in the immediate future. The counselor will demonstrate techniques that have proven helpful in working with young deaf-blind children in the areas of sensory and social stimulation, physical development, and behavior modification. The counselor will also gather data on the children as a basis for further educational planning.

Following are brief resumes of the children who participated in our projects:

1. At the start of the day school program, Debra was a very well adjusted, happy and cooperative two-year-old girl. She was fitted with a hearing aid and glasses during the summer project and received one afternoon of occupational therapy per week. She was capable of accomplishing several sense training activities. Her greatest progress during the course of training was an extension of her attention span and development of better hand and

finger dexterity. She made some very promising speech sounds, and enjoyed the auditory trainer.

Throughout the period of home teaching Debra continued to make progress except for a brief interval when she did not accept her new teacher. She has made progress in matching activities, taking things apart and putting them together, and has had a start with vibration speech reading and lip reading. Debra is working on toilet training, eats well, enjoys other children, and cooperates with adults. Mobility proved to be her greatest problem but she is now able to pull herself up and it will not be long before she will be walking independently. Debra has mastered much of her self-care skill training, and has a well developed system of non-verbal communication.

2. Debbie, a rubella child living at the Waverly Children's Home, was only 17 months old when she came to the day school. Light was her greatest source of stimulation and could be used for short periods of conditioning. She was fitted with glasses but a hearing aid was not provided since it was concluded by the audiologist and neurologists that her hearing was almost normal. This conclusion was drawn from the results of "evoked response" testing by encephalogram. Sound was traced along the auditory nerve to the cortex where it was lost. Time and further study will tell if the auditory centers of the brain are damaged or if she closes out all sound completely.

   Debbie showed strong withdrawal tendencies when confronted with most stimuli. At first, she did not use her hands at all, but immediately dropped anything given to her to hold. By the end of the summer she picked up objects for inspection, transferred them from one hand to the other and made choices between two objects held in her hand. She was eager to walk and made considerable gains in this area as well as in toilet training. She was beginning to spoon feed herself.

   When the home program began, Debbie was having frequent temper tantrums and had regressed after her pre-school summer session. Her interests were almost nil. By December, she began to tolerate vibration, was becoming more relaxed and outgoing, and her disposition had improved. At Christmas she was placed in a foster home and from then on progress accelerated. She now relates well to people, feeds herself, takes a few steps alone, has a small interest in toys and imitates one speech element. Other important gains were observed in her ability to use her eyes and to communicate with gestures.

3. Janice was six and a half years old when she was enrolled in the summer program. She was generally uncooperative and liked to pinch people and throw things. At the beginning, she fought her new hearing aid but after eight weeks was able to wear it most of the time, listening to records with pleasure. At first, lemon pudding was the most effective conditioning agent for Janice. Later, physical activities and playing with boxes were helpful. She completed most of the large and small muscle reading readiness work and an attempt was made to teach language and speech. It is difficult to evaluate her ability with any degree of accuracy because her responses are so inconsistent. She resists chewing food if she can get by with it. On occasion she has used a few words appropriately. She can follow verbal directions when not wearing the hearing aid, if they are given slowly and clearly, but she responds more efficiently when wearing the aid.

   Janice does not wear glasses, on recommendation of the Children's Eye Clinic, yet she has good travel vision, may recognize colors, and can place her hand directly on objects within her reach.

   She has had three years of intensive pre-school training in addition to the two deaf-blind projects.

4. At the beginning of the first summer, Kenny was a well-developed, hyperactive two and a half year old boy who lived at the Providence Children's Center. He has congenital cataracts and peripheral rubella hearing loss. His chief enjoyment on coming to the project was to turn around and around as he balanced on his head, or to run after light which he filtered through his fingers as they moved before his eyes. He fought sitting on the potty or wearing the head piece of the group hearing aid until the flashlight was used as a motivator. At first he could tolerate only five minutes of sound daily. Each day his exposure to sound was lengthened until he could sit quietly through the playing of an entire side of a twelve inch record. When training began he would

not wear his glasses; upon completion of the training he wore them all day. He imitated sounds by automatically giving back the correct sound and pitch.

He brought a belt with him from the nursery each day during the first week, but lost all need for it as he began to develop new interests and skills. Mrs. Mildred Donaldson, his summer teacher, worked hard to develop a relationship with him so as to transfer from wanting light as as reward to being content with her approval instead. This was largely accomplished by the end of the summer.

Kenny is now in the process of potty training, with frequent successes. He is finger feeding very well, and will drink from a glass by himself. His sleeping habits are more normal now that he is in a foster home and getting more physical activity than was possible at the Children's Center. He especially enjoys outdoor activities and water play. He still enjoys light, but will work for physical approval, which the teacher gave by swinging him through the air.

5. Kersten was three and one-half years of age when the project began. She was withdrawn, ground her teeth, had marked preferences for food, and was obsessed with seeking the stimulation of moving light. In addition to light, jumping had been a chief source of joy. Since these activities appeared to provide the only avenues of normal stimulation which come through to her in a way that gave her satisfaction, they were used as rewards to help Kersten accept substitute activities that provide more promise of usefulness in her progress toward further constructive learning.

Kersten blossomed during the school year program and from an almost silent child she now makes numerous clear sounds and is relating well to people. At the last parent meeting she enjoyed being the center of attention, found a shaft of bright sunlight plus a blower to delight her, and explored the room and the hallway in detail.

Physical development experiences and outdoor play are mandatory in order to provide a well-rounded experience for Kersten. These areas have been most difficult for Kersten's mother, who in all other areas of developmental activities has performed admirably.

6. Robbie, a six-year-old boy with an eye diagnosis of retrolental fibroplasia, entered the pre-school summer project disturbed, unhappy, tearful, boisterous, obstreperous, and uncooperative. It took almost two weeks to get him settled to a routine and to accept directions. Fitted to glasses and a hearing aid during the summer project, Robbie seemed to gain in normalcy of appearance and behavior overnight. Wearing the hearing aid prompted spontaneous vocalization to a greater degree than he had ever shown before. His table manners improved and he began to interact with people, seeking out children to play with him. Although not always in a mood to work, he only grumbled and growled for a short while before cooperating. At the end of the session, Robbie was well along in his pre-reading readiness activities. He sorted and classified by color, size and shape; put pegs in and takes them out; can work complex puzzles and match word cards. It is believed he will be a print reader. Motivation, where needed, was done with food.

   Robbie did not participate in our school year home teaching program because he was enrolled at the Washington School for the Blind.

7. Rhonda was seven years of age when she was enrolled in the deaf-blind project. She had received home teaching from the visually handicapped department prior to this time. She suffers from osteopetrosis. This bone disease has caused the central nerve leading from the ear to the brain to be pinched, has caused optic atrophy and has affected the speaking and swallowing ability of the child. She can hear, but there is no conclusive evidence that she can hear all sounds, distinguish any of them clearly, or interpret what is heard. She responds positively to the Phonic Ear but was not given a hearing aid.

   Although Rhonda has completed the necessary school readiness tasks which do not depend on some kind of symbolic communication system, efforst to proceed from there by matching and beginning writing have not been successful. During the course of the program her toleration for amplified sound was somewhat increased but it was difficult to measure the amount of hearing that was actually occurring.

Rhonda needs to be with other children and to continue in an educational program. Her teacher would place her name as first on the list of children needing an educational program geared to her age and readiness. She needs to develop a functional communication system.

8. Jason, a victim of prenatal rubella, was an active four-year-old boy who started the summer pre-school undisciplined, resentful, and strongly determined to have his own way at all times. He refused to be directed for constructive activities and would frequently throw temper tantrums. Gradually his attention span was lengthened and he became less tense. With behavior modification techniques, using food as a conditioner, he learned to complete specific pre-school readiness tasks. He had a tendency to lean and depend upon others when he was walking, so he spent some time each day walking on a balance beam. Jason had daily practice in walking independently down the corridor with a reward as his incentive and goal. His independence in walking improved. So have his table manners. He has happily accepted brief periods of vibration speech and auditory training.

   Jason did not participate in our school year project since he was enrolled in the deaf-blind department at Washington State School for the Blind.

9. Kathy, a pretty little three-year-old at the time home teaching in the deaf-blind program started last fall, is deaf and cerebral palsied. Her degree of blindness is not fully understood, nor is its cause. Further maturation will make a more definitive evaluation possible. She has more functional vision than any of the other children enrolled in the program.

   Kathy was curious about everything in her environment, and cooperated well with the teacher. Her mobility has improved, particularly since she has been in a walker and scoots all over the ward at the Providence Nursery where she lives. Her greatest problem is hearing; she appears to be the most profoundly deaf of all the children in the project. Because the deafness is central rather than peripheral, no hearing aid has been given her.

Kathy feeds herself with a spoon, drinks from a glass with help and chews slowly. She relates well to adults and ignores the children who can't play with her.

10. Johnny was three years of age when he was enrolled in the deaf-blind program. His parents both worked, and until January 1969, were unable to keep appointments for him at the Crippled Children's Division or to arrange a home teaching schedule.

    A cerebral palsied child with spastic legs, as well as severe hearing and vision problems, Johnny was charmingly and helplessly dependent at the beginning of service from the teacher of deaf-blind. He could not sit or stand, ate only strained food, and drank out of a bottle. He was interested only in sifting light through his fingers, an activity encouraged by his mother.

    The home teacher's greatest task was to enlist the parents' willingness to help Johnny develop. His father learned this approach quickly but the mother resisted considerably and needs much more encouragement. Relatives are amazed at Johnny's developmental progress. He now is ready to begin toilet training, sits independently, can eat from a spoon, chew, stand supported, crawl and is interested in exploring his environment.

PROJECTED NEEDS

The far-reaching impact of Public Law 90-247 is just beginning to be realized. Unfortunately, severe reduction of appropriations has already postponed the development of some needed services. Title VI, Title III, and possibly the Vocational Education Act of 1963 may provide limited or temporary programs, but they lack needed permanence. We believe that early pre-school education is very beneficial and that proper training at an early age will help a child deal with his handicap and society in the years that follow. Should Federal austerity continue, we will need funding for needed services from other Federal programs, such as those already mentioned, State legislation, or local private resources. We cannot afford to wait because success in a later program of services depends a great deal upon prior achievements. It is important that we implement the knowledge gained in our years of experience with seriously visually handicapped children and establish programs for children while they are very young when we know they can be most beneficial.

I would like to briefly describe some services which are now or one day will be vital to these children. Some of the following services are included in Public Law 90-247, but they are so important that I have included them here for emphasis.

Comprehensive diagnostic and treatment of physical needs is absolutely essential. The diagnosis, however, must be completed by specialists acquainted with the unique problem presented by these children. Treatment must be on a continuing basis. Cooperation and good communications are necessary between the professional disciplines serving these children and their families.

We, in Oregon, expect the Washington Service Center to use the medical facilities of the University of Oregon Medical School, which is located in Portland. The Medical School is currently constructing a center for research on mental retardation, and it is anticipated that the services of this Center will eventually include other handicapped children as well.

Just what the components of a complete pre-school program for these children and their parents should be, I cannot say for sure. The Oregon Board of Education has submitted a planning grant proposal to the U. S. Office of Education, which would fund a year's planning activities to determine specific needs. This proposal was made under Public Law 90-538, the Handicapped Children's Early Education Assistance Act. We have learned in our experience with visually handicapped children that the approach to the family is through services provided in the home for the handicapped child. This reduces the threatened feeling some parents develop when it is suggested that they seek professional family guidance. We also know most parents do not know how or do not have sufficient patience to obtain satisfying responses from their severely handicapped child. Someone is needed to show these parents what to do and to help them achieve some success with their children. Pre-school workers should be assigned to every family with a handicapped child just as soon as diagnosis is made. There is a need for several Public Law 85-926 conferences on pre-school programs and services.

Vocational training will be necessary in a few years. There are tasks which these children can perform, and they need our help to seek out and obtain these special positions. These positions may be in closed workshops or private industry. We prefer that these children be active and productive if it is at all possible. In fact, this is our challenge, to provide experiences and training that will enable them to obtain and hold some type of employment.

I am also interested in the current administration discussion about the guaranteed annual income and how it will effect the lives of our handicapped persons who marry each other.

Orientation and mobility skills will be very important tools to these children, and they deserve every opportunity that can be made available to them. Current mobility programs will need to expand their services to include these children.

We are rapidly developing a pre-vocational and work experience program for legally blind children in the Portland metropolitan area and to some degree in the rural areas. These programs eventually will be expanded to include deaf-blind children. In fact, we have already had one deaf-blind and crippled boy in our work experience program. A summer job was obtained in a closed workshop sanding shop-made wood products.

Unfortunately, employment opportunities for these children do not exist in every community. It will, therefore, be necessary to invite many of our young people to our larger cities. While they are away from their homes residing in the metropolitan area, it will be necessary to provide some type of resident care facility. These resident care facilities would attempt to provide a family-like environment with staff to help the handicapped persons provide for his personal needs and guidance or supervision. Many of our EMR and TMR children will probably require long-term residence in these "homes". Possibly elderly persons, mothers of ADC children with proper temperament and ability could be employed to staff these "homes".

There is a need for some kind of occupational therapy. This program should begin when the child is quite young and continue as necessary throughout the developmental period. It may be possible to finance occupational therapy with vocational education funds if the therapy were a part of a pre-vocational training program.

It is good for all children to learn how to take care of themselves. It is very important that each of these severely handicapped children learn as much as they are capable of about taking care of themselves. The independent attitude, the inquiring mind, and the physical dexterity of each child needs encouragement and guidance if they are to be fully developed. This encouragement and guidance must begin while they are very young and continue for years.

Special aids and devices need to be made available for those whose hearing can benefit from sound amplification. The Library of Congress should expand Public Law 89-511, Library Services for Physically Handicapped, to make Federal funds available to obtain needed aids so that some of these children could utilize recorded materials.

We have not always been able to accomplish as much as we have hoped. Mistakes have been made, and there are some things we would do differently a second time. A great deal has been learned in this series of projects. We want to be moving ahead, always growing, learning and hopefully improving our ability to help parents and their handicapped children help themselves.

PEABODY COLLEGE SERVICES TO DEAF-BLIND CHILDREN

Dr. Verna Hart, Assistant Professor
Department of Special Education
George Peabody College for Teachers

At Peabody College, services to deaf-blind children can be separated into three distinct and separate areas: the teacher training program, the practicum facilities, and the Peabody Deaf-Blind Treatment and Evaluation Center.

As a part of its program in special education, Peabody has for many years played an important part in teacher education for visually handicapped children. As early as 1957, the program was designated by the Southern Regional Education Board as a regional center for preparation of such teachers. Because of the national leadership that has been provided in this field, the U. S. Office of Education asked that the College embark on a similar program for teachers of deaf-blind children.

During the 1966-67 academic year Peabody was funded by the U. S. Office of Education for program development in the area of teacher preparation in deaf-blind and multiple handicaps. In 1967-68 I was appointed to the faculty as coordinator for this program. That first year, four graduate students were prepared in this special education emphasis area. Thus, Peabody has become one of the very few institutions of higher education in the world preparing teachers in this field.

In July, 1968, a regional deaf-blind evaluation and treatment program was developed on a pilot basis. Representatives from the American

Foundation for the Blind had contacted the Special Education Department regarding a center for such purposes, and provided some financial support for its undertaking. Additional impetus to begin such a center had been given by the U.S.O.E., Bureau of Education for the Handicapped.

The deaf-blind evaluation and treatment program has been an integral part of the University Center, with Peabody providing leadership and coordination. Qualified educational, psychological and social work personnel are provided for the center by Peabody; audiological evaluation by personnel at the Bill Wilkerson Hearing and Speech Center; and the medical work-up by the staff of Vanderbilt University Hospital. Children are referred to the center and are housed in rooms across from the Kennedy Center at Peabody. Two children are scheduled into the center at the same time to encourage interaction between the parents. The children are given educational, social history, audiological and psychological evaluations and then are admitted to Vanderbilt Hospital for complete physical work-ups. Prior to the hospital admission, the parent-child relationships are observed and pertinent data collected so that intensive work can be carried out with the parents while the children are hospitalized. Following hospitalization, the audiological and psychological appraisals are repeated, the child is staffed, and the parents informed of the outcome. Social workers, public health nurses, or teachers from the referring agency accompany the parents and children and take the necessary information back with them. This allows recommendations to be carried out in the home setting without the necessary wait that is entailed with the more formal written reports which follow later.

An expansion of this Deaf-Blind Treatment and Evaluation Center has recently been funded by the National Deaf-Blind Centers through the Alabama Institute for Deaf and Blind. A coordinator will be obtained for the center. This coordinator will be responsible for the children and their evaluation and treatment while at Peabody as well as an enlarged program. A house will be obtained so that the coordinator can use an actual home setting to demonstrate methods the parents can use in their daily routine to develop speech, language, vision and daily living skills.

Teaching of these children will be carried on in a school setting for purposes of evaluation or demonstration. If a teacher is having difficulty with a particular child, he can come with the child into the evaluation center for consultation and demonstration teaching with the members of the evaluation team. Specific recommendations will be made for the teacher to implement in his own setting.

When parents and teachers leave any evaluation setting, there is all too often lack of any follow-through. There will be an effort to prevent this from happening by carrying on correspondence with the parents and teachers when they return home. A manual is being developed for parents and teachers that will be demonstrated while they are on the campus and taken with them for reference on their return home. The coordinator of the program also will be available to the communities as an in-service and resource person.

The major contribution in services to deaf-blind children at Peabody College is in teacher preparation.

This program in teacher preparation for education of deaf-blind children is not a traditional one. It is true that students attend methods classes for teaching speech and language to deaf-blind children, that they learn the vibration method, and that they have the usual child growth and development background. However, when Peabody personnel submitted the application for program development, they made it quite clear that the content of the curriculum would include more than coursework information on deaf-blind -- that multiple handicaps would be included. Consequently our students have work in management techniques, including those of operant conditioning, programming, theory and practicum, clinical-educational diagnosis, techniques for handling various types of multiple handicaps, and heavy emphasis on the use of residual vision and hearing. They are exposed to a wide variety of observational and practicum settings and given the opportunity to develop relationships with community resources. They are taught that no one method will work for all children, and that a vast educational repertoire is necessary to meet the individual needs of the children they will be teaching. A real attempt is made to help teachers recognize the stage at which a child is currently functioning, and to program him from there.

To prevent an ivory-towered approach to these children, early contacts are important. This means that excellent practicum facilities must be available. This became a major hurdle when the program first began at Peabody. Students were to complete their student teaching practicum in the Deaf-Blind Department at the Institute for Deaf and Blind in Talladega, Alabama. This was fine for their field work experience, but it was too great a distance from the campus for early and daily contact. Opportunities were available in the Nashville area, but master teachers who had been trained in the area of deaf-blind were almost nonexistent. However, there were deaf-blind children available.

The first year of the program, the graduate students and I transported six of these children to the multiple handicapped unit of the Tennessee School for the Blind and worked with them each morning. I became the critic teacher and the students the interns. The lunch period and first hour of each afternoon were spent discussing the morning events.

No one was more cognizant of the shortcomings of this arrangement or of the need for improved practicum facilities than we. This was mainly because there seemed to be no one teacher with all the desired attributes who was also teaching the ideal practicum group of children. Subsequently, a grant application was submitted to the U.S.O.E., Special Projects Program for program development of a "Team Teaching Practicum for Teacher Preparation in Multiple Handicaps".

With the funding of this project there was a real opportunity for testing hypothesis and bringing grandiose ideas to a working level. There was a question of the types of children to work with, their ability levels and their age range.

The Bill Wilkerson Hearing and Speech Center operates a Demonstration

Home for parents of Young Deaf Children, ages birth to three years. As soon as a child is discovered to have a hearing loss he is brought into the home and his parents are given techniques for working with him. Emphasis is placed on developing the use of residual hearing and on helping the child to grow into as normal a child as possible. Parents of approximately fifty rubella children of varying abilities and disabilities have been enrolled in the demonstration project.

Because of the excellent services these children are able to receive their first three years of life, we decided we would extend this age range to ages 3-9 in our teacher preparation practicum. Emphasis of the program was placed on teacher preparation, involvement of graduate students in the school psychology program, the training of aides, and parent education. A team of three teachers was hired and eleven children with all types of handicaps were chosen.

The traditional ratio for working with deaf-blind children has been 2:1 or 3:1. Because many rubella children have some vision and some hearing, we felt that this ratio could be increased. There was a desire to try an increased ratio because of the large number of rubella children across the country, for we knew the few teacher training institutions will never be able to meet the magnitude of needs.

Four areas of development were emphasized during the program: self help skills; motor, which included everything from one child's holding up his head to mobility training; language and speech, which included ranges from nonverbal behavior to work on articulation; and adaptive behavior, which was a catch-all phrase meaning percept and concept development and included such things as teaching one child to hold things in his hand and giving reading readiness materials to another.

The children had been labeled "uneducable", "retarded", and "hopeless", but during our screening we found a wide range of abilities. We evaluated the children in motor, language and adaptive behavior and grouped them according to three functioning levels. Each teacher on the team was in charge of an area - motor, language, and adaptive behavior - and the children rotated among the teachers, each child having a period each day with each teacher.

There were also several periods each day when all the children were taught as a group. The first thing in the morning there was a large group for singing. Action songs were written for each child and all learned to recognize their names from the songs. Auditory training was taught as a group, as was our quiet time language development period. A feeding period was also part of our program, and the trip to the cafeteria was a goal behavior set for our children. Six of the eleven made it.

We worked with parents two days a week and saw many improvements in attitudes and behavior management techniques. Our day was spent in relating the progress of the children during the past week, setting goals for the coming week and planning ways these could be implemented and maintained in the home. Common problems were discussed, as were techniques for handling them.

The second day was spent in actively involving the parents in developing materials to be used in the home with their specific children.

The parents shared their materials and ideas with each other and an esprit de corps reigned over the group. The parents, on their own, formed an outside group with the eventual aim of becoming a vocal group on behalf of school facilities for multiply handicapped children. They were able to realize some of their goals with recent passage of state legislation for pre-school deaf children.

During the program we developed and used operant audiometry with some of the children who had been deemed "untestable" by more traditional methods. The results and information gathered while doing this have encouraged us to further develop the operant program into one for the use of residual hearing. A constant attempt is made to discover techniques to increase the teacher-pupil ratio but not to the detriment of the student. It is felt that this operant program in auditory training is one avenue that needs to be investigated as one means of alleviating this problem.

An innovation that will be implemented in September is that of a team that will travel for consultation and demonstration purposes. Because of the large numbers of pre-school deaf-blind rubella children and the few teachers to serve them, teachers who lack preparation in the area are being asked to set up programs for these children. A team composed of the practicum teachers, members of the evaluation and treatment team, graduate students in deaf-blind multiple handicaps, and doctoral students in school psychology will be available for consultation and demonstration teaching to these teachers. Proposed programs for meeting target goals will be left as guides for the various teachers who request them. Frequent reappraisal will be available.

As you can see, the program for deaf-blind children at Peabody College is a varied one. It's a new program with much to be accomplished, and much to be learned.

NEW JERSEY'S PROGRAM FOR PRE-SCHOOL DEAF-BLIND CHILDREN

Theresa Cornacchia
Education Counselor
New Jersey Commission for the Blind

For the past three years I have worked with our present population of deaf-blind children. All of these pre-school children are handicapped due to maternal rubella. We have approximately 55 such children registered with us. In the northern part of the state where I work, there are 24 pre-school or barely school age deaf-blind children. Nine are, or will be, in our deaf-blind program at Newark State College, four are in special public school programs for the deaf, one will attend a residential school for the deaf in September, one will attend normal kindergarten in the fall, and the remaining are either awaiting institutionalization or are too young for school programs and will be served through home visits.

During the previous two years, I served these children through weekly home visits. In our one hour sessions, part of the time was spent in counseling the mother and the remaining time was devoted to working with the children. For many of the children, these first years were spent in stimulating motor development, eating, and interesting the child in his surroundings. The children received some auditory stimulation and were exposed to the usual toys....stacking, rings, blocks. After each session, I left the mother with two or three activities to carry out until the next visit.

Most of these mothers had a very negative outlook concerning their children and their progress. I stressed the fact that working an hour a week with a child would do no good unless there was constant repetition. As they began to see slow progress, they were willing to work with their children. Most of the mothers would dutifully carry out the things that were suggested. As time went on, they were trying many new things and began to stimulate their children for greater periods of time. The more the children were stimulated, the more they began to tolerate handling. The mothers felt that they were able to effect the education of their children. Parent involvement stimulated positive parent attitudes.

Once the parent realized that there was constant support, there was a willingness to work and try new things with the child. In one case it was necessary to help a mother with feeding her child. I appeared every day at noontime for two weeks. My main purpose was to encourage this mother. At the end of two weeks, the child was eating from a spoon sitting in her highchair.

As the children progressed, it could be seen that they needed more formal programs. They were ready for a structured situation. One of the other counselors at the Commission for the Blind and I decided to run a summer camp program for these children. We had two one week sessions with four children in each group. One of the primary aims of this residential program was to offer parent relief. We also wanted an opportunity to work on self care skills and auditory training. Some of our anticipated problems were:

1. Could a pre-school child whose only experience outside the home was a hospital stay adjust and function in residential environment?

2. Was a week long enough to promote progress in the areas needing attention?

3. Would a week be too long away from home?

We discovered that the more able children were homesick for a short time. The less capable children realized that they were in a new environment and began to explore it without any signs of homesickness. One of the important factors in their adjusting so well was the fact that all the children were familiar with one or both of the teachers.

The greatest need was in the area of feeding. We were able to stimulate children to drink from a cup, eat table food, and self-feed. On the last day of camp, the parents were invited to observe the program. The teachers discussed techniques which worked with a particular child. All the children were followed through the summer with regular home visits.

The camp program indicated that pre-school children can achieve in an intensive training program. It gave us insight into the 24-hour a day problems of coping with these children. We had a fuller understanding of the frustrations that parents experience in dealing with these children.

After our camp experience, we were more than ever convinced that these pre-schoolers were ready for an intensified educational program. Parents and I had looked to the community for resources but found the field lacking facilities. Many of the children were seen at local speech and hearing clinics in the hospitals. These programs felt that our children were too low for their groups. The parents became extremely over-anxious. After some discussion with Newark State College, it was decided to begin a pilot program for our pre-school deaf-blind children.

We began our program in October with two children. After three weeks we added another child, and continued to incorporate more children until we reached our limit of five by Christmas.

They were selected on the basis of geographical location. The maximum travel time is 45 minutes. Mothers are responsible for transporting the children except in one case where taxi transportation is provided. The class meets three days a week for two hours.

The children were born between October 1964 and January 1965. All the children have had cataract surgery. All have hearing losses. Four have heart defects. Although German measles was not an entrance requirement, all the children are products of the first trimester rubella.

Student aids were to be provided from the areas of speech and hearing, the mentally retarded, and emotionally disturbed. These volunteers were junior and senior undergraduates. Unfortunately, we only had two students attend consistently. In some ways, this presented a problem in that the children could not receive the attention that they needed. However, this necessitated that the mothers help. This parent involvement proved to be of tremendous value to the parents.

At the outset, the mothers were timid about becoming involved. They would work with their own child but were reluctant to work with the other children. As they began to feel more comfortable in the group, they began to help any child who was in need. Much of their time was spent in limiting undesirable behavior such as climbing, light gazing and flicking. They were asked to try to stimulate a child with some other activity. They also were a great help in making children keep their glasses on.

I tried to minimize nonconstructive behavior as much as possible. As each child needs an individual program and must be worked with as an individual, it was extremely helpful to be able to rely on these mothers. When I was working with a child, his mother would usually sit close by and watch. I always pointed out a particularly good response. As new things were learned, I had the mother work on these tasks at home also. This was especially helpful with gestures and speech work.

The program includes:

1. Experience with educational materials.
2. Communication using gestures, vibration speech.
3. Auditory training.
4. Physical movement.
5. Group therapy for the mothers.
6. Reward through physical stimulation (jumping, swinging, etc.).

During snack time, the children are exposed to cookies and juice. We have been able to meet with success in this area. Three of the children have learned to chew and one child has begun to drink a variety of juices. One child has started to accept the cup. At this time parents have offered helpful suggestions to each other. They have supported one another's attempts to improve eating habits.

These five mothers seem to find great comfort in the fact that they all have similar problems. The stronger mothers have helped the weaker ones to cope with their problems. They encourage and stimulate each other to try new things with their children.

When the class began all that I heard were the negative comments of what the child could not do. In order to limit this, I tried to say something positive each day about the children. I also asked that the mothers relate one positive thing their child had done. Naturally, as time went on, they began to see more positive sides of their child's behavior. They also began to work and encourage their children.

I was aware of the need for these mothers to ventilate their feelings. With the class structure as it was I did not have adequate time for this. As a result, we began a parents' discussion group conducted by one of the college social workers. The group met an hour a week. I was kept informed of these meetings through discussions with the social worker and reports. Knowing what my parents were feeling and thinking helped me meet their needs in informal classroom discussions.

Some of the questions discussed in these group meetings were feeding, temper, discipline, climbing, and institutionalization.

Two approaches emerged in handling the above behavior problems:

1. Patience
2. Persistence.

The parents recognized that each child was an individual but that with handicapped children the process of learning took longer and required more repetition. They felt that the process of learning was really the same for these children as it was for normal children.

None felt that they were able to accept institutionalization at this time. However, they all viewed this a possibility in the future. All were hopeful that day programs could be continued. Everyone agreed that if anything happened to them, the siblings should not have the responsibility of caring for the handicapped person.

All parents agreed that they were overprotective with their handicapped child. They felt that most normal children were friendly and helpful with their children. Parents felt that the normal child did not see the handicapped child as abnormal but knew they were different.

The value in this day program has been that the child has been home and in his own community. The parents have received support needed to make the situation more livable. These families are directly involved in the education of their children. At last there is a place for this child.

Parental feelings about the class:

1. Everyone felt at last there was a place to go for help. The program helped families to understand behavior and deal with it effectively. They are better able to cope with their problems. Peace was brought into the home.

2. Progress of the children: more aware, longer attention span, more inclined to seek out parents to play with them, more vocal. Eating... chewing, spoon, variety, and sleeping...through night. Toileting...little improved.

3. Parental involvement should be continued. All the parents felt that carry-over was needed and wanted to be involved in the program. They felt that the parents, as well as the children, needed to be educated. Consistency is so important.

4. They wished to continue the parent discussions because they were helpful in sharing how to solve common problems. Just knowing that these problems were common to these children made them less serious. They did not feel so alone.

All of the children have been or will be evaluated by the college evaluation team. This team has been most helpful to me. I have been able to draw on the many disciplines for advice. Campus interest has been high and thus I have been able to receive helpful advice from those knowledgeable in the various fields of special education. We have been a working laboratory for the campus and have interested many students in this field.

FUTURE: We plan to continue the program this summer with a summer camp experience for the children. The program will be held three days a week. We will concentrate on outdoor activities.

Next year should be a very exciting one for the class. We will have two sessions; a morning and an afternoon group. We will provide transportation for three days and the parents will bring the children the remaining two. We wish to continue parent participation.

We will have one full time teacher aid and paid student aids for next year. The student aids will come from the various areas of special education and early childhood development.

In retrospect, I feel that the program could be longer. The children seem ready for a longer day and a more intense program. We should work more on feeding and toileting than we do. With a two hour limit, we are handicapped.

There should be some help for these children in transporting to pre-school programs. Although parent involvement is vital, some sort of public transportation could be arranged. Mothers could accompany their children two days a week. In New Jersey the local school boards are reluctant in most cases to provide transportation for a pre-school child.

Closing remark by a parent:

> "The care of these pre-school deaf-blind children is at times overwhelming, at times depressing, and most often rewarding. In the group, we have given strength to each other. No one except another parent can comprehend the feelings of a parent of a multiply handicapped child."

EFFECTS OF PRE-SCHOOL SERVICE
FOR DEAF-BLIND CHILDREN

Alice A. Brandt, Superintendent
Diagnostic School for Neurologically Handicapped Children
Northern California

DIAGNOSTIC EVALUATION OF DEAF-BLIND CHILDREN

My remarks shall, of necessity, probably reiterate some of the findings thus far presented by Mr. Ashurst and Dr. Chambers. However, my emphasis will be directed toward the scope of diagnostic evaluations for deaf-blind children with implications for teacher training and the education of the deaf-blind child.

In the original ESEA Title I project, written by Miss Violet E. Sprainga, Director of Psychological and Educational Services of the Northern California Diagnostic School in San Francisco, she describes the project as "comprehensive diagnostic evaluation of deaf-blind children." Miss Spraings further states the objectives of the project:

"The proposed study will be an attempt to provide definitive information relative to deaf-blindness when the age of onset occurs at birth or in early childhood. The major objectives of this study follow:

1. There will be an attempt to establish criteria relative to needed diagnostic methods adequate for definitive and differential diagnosis of deaf-blind children. These criteria will be established on the basis of comprehensive diagnostic study by an interdisciplinary team which shall include the following certified and/or licensed personnel; audiologist; neuro-ophthalmologist; pediatric neurologist; pediatrician (with special concern for delayed growth and development and nutritional defects); child psychiatrist; child psychologist; psychiatric social worker; speech and language therapist;

educator; physiatrist; occupational and physical therapist; and other special health consultants as needed; otologist; orthodontist; cardiologist; rhinolaryngologist, as well as laboratory studies as needed; electroencephalogram, bone and skull x-rays, etc.

2. The psychological evaluation will include estimating and evaluating intellectual ability, learning ability, social maturity and adjustment, perceptual and perceptual motor ability and development, and emotional adjustment. A major objective of the psychologist will be to attempt to devise procedures and materials which might henceforth prove more valid than those currently existing in providing definitive information on the aforementioned areas.

3. The certified psychiatric social worker who is experienced in counseling with families of handicapped children will provide an extensive evaluation of the child's home and community situation. A major objective will be to definitively describe the home and community aspects which seem to be most supportive and desirable for the deaf-blind child.

4. The educational evaluation will be accomplished by an experienced educator with an extensive background in speech and language. A major objective of this person will be to recommend the type of program that should be provided with adaptation, to the individual needs, taking into consideration the child's physical disabilities, emotional stability, and intellectual functioning as well as an assessment of his development of communication skills and overall development. The experiemental approach will be utilized with an attempt to refine and develop educational approaches that can suitably be used to make somewhat realistic prognostic statements.

5. A major aim of this Pilot Study will be to provide definitive guidelines for the establishment of deaf-blind centers; medical, psychological, educational, administrative and also guidelines for needs relative to the physical aspects of these centers.

6. To produce a manual containing useful descriptive data that may be diseminated to others in assisting them to provide more adequately for the deaf-blind child."

The procedure for evaluating children in the Pilot Study is to have the children referred to us by the California School for the Blind in Berkeley. They assemble all previously accumulated data from all sources. It is sent to us and we then make plans to have the deaf-blind child and his parent come to the school for an extensive and intensive diagnostic study that takes place over a two or four week period while in residence. We find it advantageous for our studies to have the parent with the child the first week and then the child by himself the rest of the time with an attendant assisting him with his diagnostic sessions and being with him during all waking hours. A registered nurse is on duty during his sleeping hours. At the conclusion of the evaluation period, the findings are reviewed in a formal staff meeting which includes representatives of the diagnostic staff, representatives from the staff of the California School for the blind, and appropriate representatives from the child's local community, which have been or might be involved in providing service to the child and family. At the conclusion of the staff meeting, a parent conference is held with the parents to apprise them of the findings and to assist them in future planning.

From diagnosis must come programing. We do not presume to have found a simple answer to the problem of educating young deaf-blind multi-handicapped children since beginning our study in April, 1969. What has been observed during the evaluations thus far are the following points:

1. The process of communication through ordinary channels has been limited for the pre-school age deaf-blind child. Whether this is due to some degree of mental retardation, or is due to the lack of appropriate experiences, or is in fact a combination of both of these factors, indicates the vital need for a definitive differential diagnosis.

2. There is insufficient knowledge on the part of parents, community workers, nurses, doctors, etc., regarding the unique qualities, characteristics and needs of these children.

3. The children thus far seen in the study are functioning developmentally, socially and emotionally far below their chronological age. Therefore, because of the need for an in-depth evaluation, this study should extend over a much longer period of time, perhaps lasting for as long as three or more months.

4. Parents need continued reassurance, guidance, and instruction in the home to cope with the problems of the multi-handicapped child in their family constellation.

5. Behavior modification can begin at an early age through total environmental control, such as a residential setting, so that the child may learn to begin to respond first to himself and then to his surroundings.

6. It would appear that this sensori-handicapped child functions more like a deaf child than a blind child, with respect to the educational process, because of his lack of communication skills.

7. Education needs to focus initially on single-task orientation, sequential programing and self-help skills. We need to view the multi-handicapped, post-rubella, deaf-blind child differently from other children who have handicapping conditions and should program him on a one-to-one basis.

As we continue our diagnostic evaluation of these children who come to us in the project, we ask oursevles these questions:

1. What do we do to help parents cope with their problems more effectively?
2. How can we determine the best approach to assist the child in reaching a program that will adequately meet his total learning experience?
3. How do teachers help these children achieve communication within themselves and with the outside world in which they must eventually function?

We have not yet found adequate answers. Through continued research within the various disciplines, at the conclusion of the study, we hope to be able to suggest guidelines for definitive and differential medical, psycho-educational, speech and language diagnosis from which can come recommendations to the educators.

AN INTERDISCIPLINARY TEAM APPROACH
TO
PSYCHO-EDUCATIONAL-MEDICAL EVALUATION
OF
"DEAF-BLIND" CHILDREN

Donald I. Ashurst, Superintendent
Diagnostic School for Neurologically
Handicapped Children, Southern California
(State Department of Education)

First, I would like to set the record straight; I am not a teacher of deaf-blind children, I have had extremely little experience with the deaf-blind child prior to the study in which we at the DSNHC are now involved. In fact, I feel worse than the mosquito who flew into a nudist colony and after looking the hunting grounds over said, "I know what to do - but I just don't know where to start!"

So knowing this you may forgive my impudence for coming before you and know also that I am no expert and thus be able to accept what I say not as an expert but as a learner.

This past year the State Department of Education received a federal grant under Title I to develop an in-depth appraisal and assessment of the problems confronting children who had suffered multiple sensory deprivation - mainly the two major sensory areas of vision and hearing. Specifically, these are children who suffer from post-rubella syndrome effects of the 1964-65 rubella epidemic.

The first task was to develop a case registry which identified each child by name, age, sex, address, etc. Several sources were available as major contributors to this registry. The Lowenfeld Study, the Calvert Study, Pre-School Counselors for the Blind, the Variety Club of Northern California, State School for the Blind, Crippled Childrens Services of the California State Department of Public Health, and the California State Department of Education Consultants to the Blind and Consultants to the Deaf and Hard of Hearing. The listing was compiled quickly and provided the names of 111 children in Southern California Counties. Of this number, 18 were school age and 93 were pre-school.

Adjunct to development of the registry was a plan to develop a class for school age candidates at the State School for the Blind at Berkeley in the fall of 1969.

Once the listing was developed, the DSNHC, SC developed a letter to the parents of all the children on the list. This letter told the parents of the project, the purposes and goals and invited the parents to contact our school if they were interested in having a complete medical-educational evaluation of their child free of any cost.

Beginning in May, appointments were scheduled to have one child and his parent or parents come to the DSNHC for a five-day period. The parent(s) and child live at the school for the entire five days without any charge for the services to their child.

Each child is scheduled for approximately six hours with each person on the evaluation team. This is not inclusive of approximately 2½ days of medical specialist consultations, examinations, and laboratory studies performed and scheduled outside of the school.

The team consists of the medical director who spends approximately 1½ to 2 hours in a very thorough pediatric-neurologic examination and an equal amount of time in gathering the developmental history on the child from the parent.

Following this, the child is usually seen by the psychologists for evaluation of adaptive behavior, developmental schedules, intellectual status (you note I did not say I.Q.) present functioning capacity, capacity for the inclination for exploration and utilization of the environment, and any development of self-concept. For most of these youngsters of 3-4 and 5 years of age we find they are at the sensory-motor and intuitive level of intellectual development with, in some instances, some beginnings of concept formation.

Following this, the speech pathologists utilize every avenue of approach to ascertain the amount and level of hearing. They utilize any and all means of evaluating not only auditory processes operating but also any inner language development. A variety of noisemakers and toys are used in a calibrated sound field to test the child. A room has been darkened for complete darkness in order to test auditory stimulation using light as a reward. (I'm sure you are aware that many of these children have some light perception and consequently are so stimulated to light that they are unable to attend to anything else - especially sound.)

Following this the clinic teacher attempts to do an educational evaluation on each child. For younger children, C.A. 3-4, we find the actual developmental age is a year to two years retarded, therefore, educational evaluation on these children is gross at best.

Following the separate evaluations, the psychologist and speech pathologist will work in tandem or all three of the educational specialists (speech pathologist, teacher, and psychologist) will work together with the child in an effort to pool their clinical knowledge in the assessment of the child.

Between appointments with the school evaluation team members, appointments are scheduled with the following medical specialists:

1. Complete laboratory studies.
2. Complete neurological study, including an EEG (waking - sleeping - waking).
3. X-rays of skull, wrists, and chest.
4. Complete otological study.
5. Complete opthalmological study.

All outside consultations are reported back to the medical director within 24-36 hours.

By the fourth day the evaluation team has met at least three times to discuss findings, evaluate them, and propose any strategies for gaining additional understanding for further psycho-educational evaluation.

At the end of five days if the team has exhausted all avenues of gaining further understanding of the child and has been able to complete their assessment, an appointment is set for the following Friday and the child and parent(s) return to their home.

During the next week the team will pull all of the information together and present their findings in a staff conference at which school district personnel are invited and any other professional personnel involved in the child's case. This is what the final evaluation of such a child sounds like when it is all compiled and put on paper.

Dr. Chambers has presented to you the medical findings on two youngsters recently evaluated at the Diagnostic School. The significance of these findings for the educational team are many. They are significant because first, these organic conditions for the most part are unalterable. Secondly, they require that an on-going medical regimen be a basic part of any other planning which might be entertained for the child. Third, knowing that the organic problems are part of the child and must be considered in the development of any educational program, the educational team now has some objective base-line data which feeds into their approach to assessment of the child.

Let me briefly review the psycho-educational assessment on David, knowing what you know of David, the physical organism.

First we can all agree that David is a deaf-blind child, whatever that means. At first blush I, as an educator, would say he needs to be taught via the sensory channels open to him. Tactile-kinesthetic, olfactory, gustatory. But, in David's case and in our belief, the problem is not that simple. Not only does David and children like David lack visual and auditory imagery but he has a great difficulty in organizing, analyzing, and synthesizing information at the cortex level for translating incoming stimuli into meaningful, useful and purposive responses or actions. Concrete reasoning is difficult while abstractions are almost impossible for these children to understand.

David has some residual hearing but an auditory-figure ground disturbance is found; similar to that found is dysphasics. While partial vision is present perceptual distortions and visuo-perceptuo motor discrepancies are apparent. At this point, I am talking about the central processes of audition and vision as opposed to peripheral processes of hearing and seeing. In almost every child we have seen or heard about, temporal-spatial learning difficulties are present. This is so in David's case; generally, these children could be labeled as central language disordered. Their behavior is that of the non-verbal child and they may be easily labeled mentally retarded. None of these clinical labels will help the teacher organize the instructional process. The medical model has told you all its going to tell you. Namely, the child is a neurologically involved child, lacking vision and hearing. Medically, he needs careful follow-up for his organic deficits. Developmentally he is lagging and needs to be viewed as a child two or more years less than his C.A. of 4, say. But, again this is quite general, because the average two-year-old can only be compared with average two-year-olds who have vision, hearing and average physiologic development.

It is my belief that we must use the medical-clinical information to whatever advantage we can as a springboard for developing an educational model for multi-handicapped children. We must not get caught in the "cause and effect" trap. This can only lead to a "self-fulfilling prophecy" (I prefer hypocrisy).

I do not believe that these children can be looked upon educationally only as blind and deaf. I believe deafness and blindness are only the outer manifestations of much more complex, latent problems which interfere with cognitive functioning. These children will require an entirely different educational intervention that is traditionally used for clinically deaf or clinically blind or a combination of these with no other kinds of neurological involvement, if a learning transaction is to occur.

I urge that we develop teaching-learning strategies based upon the use of behavioral objectives using a task oriented approach and which is based on a sequential-developmental curriculum. It must be a curriculum in which the learning tasks are organized at an operational level and from which the teacher can objectively measure the outcome.

It must be ordered in a hierarchy vertically and horizontally so that, if necessary, the teacher can move down to the most basic physiological response mechanism in which the child has effectively operated and which can be employed to effect a chance in his learning behavior. It must say, in effect, HOW are you going to teach WHAT you say you are going to teach.

What we are doing is a beginning. It is an effort to bring all resources together to zero-in on the problems of the child who is so multiply-handicapped. It brings together all of the disciplines into one setting at one time to focus on the problems and to provide information to the parent and the school people, and offers recommendations - more often suggestions - for better understanding of him as a person and as a possible candidate for a learning process in a public school or residential setting.

In addition to the service we hope we are providing to parents and educators in long-range planning for the child, we are attempting to develop a data bank of information which may serve to provide us with significant clues to better understanding and planning for children who have multiply handicapping conditions such as these.

In closing, I would like to quote from the scriptures from the book of Mark. While I feel sure that this quote may more aptly apply to the autistic child I feel it has a great significance to those of us who are trying to plum the depths of this unseeing-unhearing child whose greater problems are yet to be fathomed:

> "Mark V: 35-43: While he was speaking, there came from the ruler's house some who said, 'Your daughter is dead. Why trouble the Teacher any further?' But ignoring what they said, Jesus said to the ruler of the synagogue, 'Do not fear, only believe.' And He allowed no one to follow Him except Peter and James and John the brother of James. When they came to the house of the ruler of the synagogue, He saw a tumult and people weeping and wailing loudly. And when He had entered, He said to

them, 'Why do you make a tumult and weep? The child is not dead but sleeping.'' And they laughed at Him. But He put them all outside, and took the child's father and mother and those who were with Him, and went in where the child was. Taking her by the hand He said to her, 'Tal'itha cu'mi'; which means, 'Little girl, I say to you arise.' And immediately the girl got up and walked; for she was twelve years old. And immediately they were overcome with amazement. And He strictly charged them that no one should know this, and told them to give her something to eat."

BEHAVIORAL STUDY OF CHILDREN WITH CONGENITAL RUBELLA

Paulina B. Fernandez, Ph.D.
Clinical Psychologist

As a consequence of the 1964 epidemic of Rubella, which affected large numbers of pregnant women, many children were born suffering from fetal rubella. These children, who are now 4 years of age, display the serious multiple physical handicaps and disturbances of development characteristic of the disease. The determination of medical and educational services required for these children necessitates careful pediatric, neurological, psychological and psychiatric assessment of each youngster. Such assessments are also necessary to advise parents properly about the need for residential placement or concerning optimal child-care techniques for those children who are maintained at home.

In general, adequate methods exist for the pediatric evaluation of such children. However, the neurological examination of the young child, by itself, often does not provide an adequate index of the presence and severity of brain damage. Such estimation of brain damage often requires, in addition to the neurological examination, psychometric, perceptual and behavioral studies. Similarly, the successful measurement of degrees of hearing loss can be extremely difficult in the presence of intellectual or behavioral dysfunction. The psychiatric and psychometric evaluation, therefore, becomes important for the evaluation of the neurological and sensory findings as well as for the delineation of the child's behavioral and intellectual status.

The capacity of the child to respond to treatment measures depends not only on the nature and severity of the physical handicap but also on his ability to adapt to environmental demands and to comprehend and respond positively to training and teaching procedures. This ability will be influenced by his intellectual level, by any distortions of perception that may exist, by the psychiatric consequences of brain damage and by the child's psychological reactions to the physical handicaps.

The overall objective of our study, therefore, has been to determine the special behavioral and intellectual consequences of congenital rubella and to utilize these findings to enhance the effectiveness of the treatment and education of the children in the study sample. Furthermore, we hope to generalize our findings for the use of other professional workers concerned with the care of children with congenital rubella or of children suffering multiple handicaps of other etiologies. However, since we are just now completing the second year of a three-year project, the findings we have tabulated are still tentative. I shall emphasize, therefore, the procedures of our study and its relevance to educators and others who work with handicapped children.

Sample

The Rubella Birth Defect Evaluation Project (RBDEP) at New York University currently has an enrollment of 304 children. One hundred thirty-six of these youngsters and/or their parents have already been seen by one or more members of the behavior project staff.

In order to insure that a maximal number of RBDEP children are studied behaviorally, several techniques of a field study have been applied. Home visits have been scheduled after families failed to keep office appointments; travel and baby-sitting money have been made available; whenever appropriate, letters have been written in both Spanish and English and interviews in Spanish have been arranged; and institutionalized children are being seen in residence and while on home visits.

We have tabulated socio-economic data on the children already enrolled in the behavioral study. These data indicate that the socio-economic background of our sample is equivalent to that of the larger number of children in the RBDEP sample.

With regard to ethnic background, 57% of the children are white, 26% Puerto Rican and 17% are Negro. Half of the sample is Catholic; the remainder are equally divided between Jews and Protestants. Twenty-three percent of the fathers are unskilled or semiskilled workers; fifty-three percent are skilled or clerical workers; and eighteen percent are professionals. The remaining six percent of the fathers are students, unemployed or their employment is not known. The vast majority of the mothers are housewives.

The children in the behavioral study have also been grouped according to the number of defects they have. Although these figures may change before our final data analysis, since some of the defects will be corrected, it is of interest that of the 136 children, 31 have no defects, 12 have one defect, 28 have two, 38 have three, 25 have four, and 2 have five physical defects.

Systematic information on the behavioral functioning of these children is obtained by interviews of the parents and direct observations of the youngsters during the psychological and psychiatric examinations.

The final psychiatric evaluation is made by the chief investigator, Dr. Stella Chess, and is based on data on the child's behavior at home reported by the parents and on the findings of a clinical psychiatric examination of each child. During the clinical psychiatric examination, the child's functioning in the following areas is evaluated:

a) Spontaneous motility and speech

b) Spontaneous choice of play or topic of discussion

c) Play performance and use of language

d) Affective behavior, including the child's attitude to the examiner

e) Stated interests and content of thought as expressed in play or verbally

f) Attitudes toward family and playmates if any are expressed in the child's play productions or discussion

The aim of this interview is to determine the presence or absence of a behavior disorder. However, for any child, but especially for these rubella children, a label is not enough. Obviously, we cannot withdraw all labels, and introducing new ones would only produce semantic confusion. But, descriptive data is fundamental to understanding these rubella children and the psychiatrist must give, in addition to the label, a careful and detailed analysis of the child's behavior.

This is crucial for several reasons. First of all, in dealing with the children, it often is extremely difficult to make a differential diagnosis. The fact that these youngsters have a reduced input of environmental stimuli and a limited repertoire of responses may cause them to behave in a way that, on the surface, appears similar to that considered typical of an autistic, retarded or brain-damaged child. A detailed record of a child's behavior permits careful study and review of his functioning in the light of other data when a clear-cut diagnosis is impossible. Secondly, it must be remembered that these children are 4 years of age and therefore at a critical point of growth and change. Developmental rates that vary in normal children vary even more in these youngsters, who may still be in the process of compensating for their sensory defects. A thorough psychiatric evaluation when they are first seen facilitates comparison at a later date to determine the nature of the child's adaptation, and to what degree it has been successful.

In attempting to diagnose and help the children in our sample, it was necessary, in the words of Gesell, "to fall back on the most comprehensive and integrated indicator of a child's well-being, his behavior." The role of the psychologist is to observe this behavior in a standardized situation so as to be able to make an estimate of the child's intellectual functioning, with the aim of alerting the parents and the school to every sign that better functioning is possible.

Deafness is the most prevalent sequella of congenital rubella, and in reviewing the available literature, we found that investigations of the mental ability of the deaf are of two main types: "they either try to assess quantitatively the intellectual capacity in terms of mental age and IQ or they deal with qualitative aspects of cognition." (Levine) The aim of our psychological interview was, however, broader than this. Realizing that in 1 to 2 years these children will be entering school, we felt it necessary to develop a descriptive report that would help teachers effectively face the problems presented by a youngster, alerting her to his strengths and weaknesses. Thus, to give just one example, the observation of gestures became an important diagnostic tool to help differentiate between a deaf child and an aphasic child. As Mykelbust reported, "A child with aphasia cannot relate the symbol to experience or the word to thought because of brain damage. He hears, but what he hears doesn't make sense to him. The deaf child is deprived of receiving information through this sense. Therefore, if one observes the gestures and they show that he interprets the actions of others, one knows that he is developing inner language. He is able to engage in anticipatory behavior, while the aphasic child cannot."

A descriptive psychological analysis was also crucial for finding out what the child can learn, what his optimal behavior is and if there are any indications of his functioning at an appropriate age level. These latter are most important as a guide for treatment and education insofar as they indicate that the child can be raised to age-level in some areas. Such isolated signs are usually not so crucial in the handling of a normal child but for these youngsters they are important clues to ways in which to make contact despite sensorial damage.

Since parents found it difficult to keep numerous appointments and only one interview was feasible for psychological testing, it was felt that the most reliable information would be elicited by ascertaining the functioning of the child within a well standardized developmental scale, and to supplement this with an interview with the mother and observation of the child.

In trying to keep the standard format of psychological testing, the children originally were asked to go alone into the playroom. There were no major difficulties in effecting the separation of most of the children from their parents. Of course, one must remember that many of the youngsters attend special schools or clinics and therefore spend many hours a day away from their mothers. We also observed that the few children who did not want to enter the playroom without their mothers and whose cooperation was very difficult to obtain were willing to perform when their mothers were with them. Furthermore, the opportunity to observe the ways the mother and child had found to communicate with each other was extremely important. Very frequently the mother had developed ways of interacting with the child that permitted him to achieve a maximum level of performance. As this was the most important aim of the psychological examination, it became apparent that the mother's presence would provide an atmosphere most conducive to optimal functioning of the child. Thus, we decided to see the mother and the child together.

A questionnaire addressed to the mother was devised, which sought information about the child's functioning in many of the areas also tapped by the testing of the child. The questionnaire served three purposes:

1) It was a formal reason for the mother's presence in the room;

2) It made possible a comparison of the child as observed during the psychological testing with the information given by the mother;

3) It enabled us to observe the child's behavior in relation to his mother, the examiner, and the toys in the room, during the first twenty minutes, since the conversation took place at the beginning of the interview.

Trying to find tests that would be suitable for these children served only to show how very few studies have been made of the intellectual development of multiple handicapped children. The consensus of reports in the literature and at centers dealing with children with both auditory and visual defects was that standardized developmental tests should be used with modification of the manner in which they are presented to the child. Since it was impossible to hold two interviews to administer both a standard intelligence scale (Binet or Catell) and a special test for children with hearing loss, we decided to use only the Binet and Catell scales, and to use the observation of the child and questioning of the mother as supplementary sources of information.

The functional areas discussed with the parent (generally the mother), during the psychological testing interview were:

1. Main Sensory or Physical Problems:

The parent reported on the medical problems of the child. This information permitted the psychologist to familiarize herself with the parent's view of the child's disabilities. Frequently, the mother also reported behavior problems which were of more concern to her than the child's physical difficulties. During the discussion of the medical problems, it was of particular interest to note the importance the mothers gave to their youngsters' handicaps. This was reflected in their comments and remarks rather than in the order in which they listed the various handicaps.

2. Sensory Modalities:

Visual

Alertness to visual clues: We asked the mother if the child used vision as the primary way of sensing the world around him. If she thought that his visual alertness was great, she was asked for specific examples. Thus, one mother reported that she had reversed the order of two bottles among some ten cosmetic containers when cleaning her dressing table, and that her child, when he returned from school, had pointed excitedly to those two bottles, indicating that something was changed.

Light gazing: An attempt is made to find out if the child spends long periods looking at lights.

Visual absorption with objects: The propensity of children with sensory difficulties to spend a long time holding an object in their hands, turning it around contemplatively, but without trying to do something specific with it, has often been reported. Questions were put to parents to establish whether this was so in their child's case.

The ability to focus on the speaker was another item investigated during the parental interview.

Hearing

Selective response to sounds: The parent was asked about the child's reaction to human voices (familiar and strange) and other sounds (planes, sirens, music, doorbells, telephone, etc.).

Response to being called by name: Some mothers said that they always tapped the floor with their feet when calling the child. Others, who said their children responded only at certain times, could not say whether this was the consequence of a hearing loss or of the fact that the child, absorbed in his activity, could not be reached by the mother's voice.

Acceptance of hearing aid: All the mothers reported that, following doctor's orders, the hearing aid was taken off when the child went to bed. Several said that when the child became very angry he took his hearing aid and threw it to the floor or hid it somewhere. A few of the parents reported that the child seemed to be completely indifferent to the hearing aid. Painful reactions were mentioned by others. Some children turned off the controls whenever they did not want to obey their mother's orders.

Touch

People and objects: An attempt was made to explore the child's use of tactation, both as a way of learning about objects and of relating affectively.

Smell

Some children seemed to use this sense in preference to touch. They smelled food, people and objects before approaching them.

Taste

A large number of parents reported that their child never put his hands in his mouth. Some children chewed matches, crayons, or paper; some kept metal objects in their mouths for a long time; and some licked every object before playing with it.

3. Stereotyped Movements:

The parents mentioned not only the common mannerisms of children with visual difficulties, such as hand-flapping, hand-turning, and head-banging, but they also often referred to the child's habit of hitting himself on the head or on his face, always on the same spot with the same intensity and for the same number of times. Other children would go through certain rituals, such as always tapping the table before opening a door.

4. Ability to Speak:

We elicited the mother's appraisal of the child's vocabulary, of his capacity to make sentences and of his diction.

5. Ways in which Child Communicates with Parents:

Mothers told us about their children's vocabularies and how much they either spoke or relied on pointing and gesturing to indicate needs. Some mothers said they encountered no major problem because the child's needs were very limited and they could anticipate them. For instance, a child's favorite cookies might be left on the table so he would be able to reach them without asking for them.

6. Ways in which Parents Communicate with Child:

This item tried to clarify how the mother used language as a means of communication with the child. Several mothers said that they spoke only the words they knew were part of the child's vocabulary; for the rest, they pointed or just gave him whatever they thought he wanted. Many mothers also gestured when they felt rushed and did not have the time necessary to make the child understand what they would otherwise say.

7. Capacity to Imitate Behavior:

The mother indicated whether the child could join other children in games, whether he could pantomime television sequences, etc.

8. Affective Responses:

Affection: Some mothers discussed how they felt bothered by the child's not being affectionate or by his rejecting their hugging or kissing.

Anger: Several mothers said they did not always feel they could apply to the handicapped child their usual way of disciplining their other children. They were concerned and felt helpless about what they called the stubbornness in the child. Once the child was determined to do something, no attempt to distract him was successful. The "usual" reaction to spanking did not occur, making mothers feel extremely powerless. They felt very concerned about how they were going to handle the child as he grew older. Temper tantrums were frequently mentioned.

Pleasure: Many mothers often were not clear about what gave the child pleasure, although they could easily describe the number and kind of situations that made the child angry.

Fear: Some parents said they wished their children were afraid of something. They felt that the abnormal lack of fear made it necessary for them to worry constantly. A mother said, "Whenever we have to go by the stairs that go to the upstairs bedrooms, we have to make sure that Michael is not getting ready to jump from the top step. He doesn't have any idea about the danger involved. Three times he has hurt himself this way." Very few parents reported fear of animals. One child approached quite happily a dog that had previously bitten him.

Reaction to being Hurt: Many mothers reported that the children often could not point to the area of the body where they had gotten hurt. The youngster would cry and come to his mother, but she would have to examine his body until she could find the injury.

Reaction to parents' Departure: Many mothers reported no negative reaction; the child did not seem to care about his parents leaving the house.

9. Parents' Evaluation of Child's Intelligence, Including Memory:

The aim of this question was to obtain the parents' evaluation of the child's intelligence, irrespective of what all the doctors have told them. A number of mothers, after having previously given numerous examples of the child's developmental lags in many areas of functioning, proceeded to report that the child was of normal intelligence. Quite often they gave examples of the child's memory as proof. Thus, one mother was convinced of her child's intelligence since he continued to remember that a piece of the upholstery on a sofa was torn. Even after she covered the torn area with a pillow, he kept uncovering and pointing to it. Reactions which indicated that the child knew whether he had been at his doctor's office before were also taken by the parents as indications of his good intellectual capacity.

Testing of the Child

The information gathered during the testing and observation of the child allowed us to evaluate the following:

1. Physical Appearance and Activity Level:

As is usual during a psychological examination, we recorded whatever in the child's appearance made him markedly different from other children his age. The degree of activity, whether the child was hyperactive or hypoactive, the quality of the activity, and the presence of any aimless body movements - flapping of hands, rocking, head-banging, etc. - were also noted.

2. Communication:

Verbal: Many of the questions require verbal answers from the child. If this is not enough to give us a true estimate of his speech development, his comments while playing by himself, to his mother and to the examiner help us to evaluate his capacity to use language meaningfully.

Non-Verbal (Gestures, Facial Expressions, etc.): Many of these children have a limited speech capacity. Therefore, the amount and richness of gesturing often constitute the best indicator we have, not only of the child's conceptual capacity but also of his feelings.

3. Relationship to Parents:

We recorded whether the child turns to his mother when he is confronted with any difficulty. It shows fundamentally how they understand each other and what mutual expectations they have.

4. Relationship to Examiner:

This item is related to the previous one. Quite often the mother mediates between the child and the examiner, either by interpreting the child's statements or by encouraging the child to attempt the task.

5. Capacity to Do Things, as Evidenced by Ability to Follow Directions Both in Response to Test Items and During Play Period:

The child's performance during the test period is recorded to see if there is any evidence in his play of better intellectual functioning than is indicated by his scores in the intelligence test.

6. Estimate of Intellectual Functioning:

We tried to arrive at some estimation of the child's intellectual capacity, paying special attention to any area in which he performs up to age, as this could become the best indicator of the possibility of normal functioning.

7. Estimate of Capacity to Learn:

This is an attempt to extract from the child's overall functioning on the test and in the play period how he will be able to cope with learning demands. If the child discourages easily or tends to attempt only tasks with which he is familiar, these personality characteristics may interfere with his intellectual growth.

Another important source of information on the behavioral functioning of these children were parental interviews on the child's developmental level and temperamental style and parental attitudes interviews. Detailed protocols were developed for both sets of interviews. These and the scoring procedures are based on previous protocols devised by the principal investigator in ongoing behavioral studies of normal and mentally retarded children.

Level of Functioning and Temperament Interview

The parent is told that the purpose of this interview is to get a picture of the daily activity and general personality of the child. A series of questions are asked about the child's behavior and performance in routine areas of his daily activity, such as waking, napping, dressing and undressing, eating, toileting, bathing, sleeping and playing, as well as about his sensitivity to various sensory stimuli, neuromuscular ability, responses to people, playing, discipline, new situations and the nature and degree of his verbalization.

In studying a child's level of functioning in the performance of his daily activities, we are concerned with the question of mastery. Either a child can or cannot perform a particular task without assistance. The capability level is what we are trying to determine, and this is defined as what he can do unassisted. Questions of frequency of performance, of how the activity is initiated, of how errors are noted and corrected, and of the amount of parental supervision needed or offered are irrelevant. Our sole concern in scoring for capability is to determine whether a child can or cannot independently and purposefully perform the discrete item of behavior under consideration. Thus, there are six possible scores: 1) can do; 2) cannot do; 3) no opportunity to perform (child never even starts activity); 4) never tried although opportunity present; 5) parent indicates lack of opportunity to observe activity (no information); and 6) not clear (unknown).

It should be noted that the capability score is often not predictive of actual daily functioning, especially with regard to dressing, since parents often will service a child despite his capacity to perform in a given area.

This interview with the parent is also scored quantitatively for behavior style or temperament. Temperament, as we define it, refers to the "characteristic tempo, rhythmicity, adaptability, energy expenditure, mood and attention focus of a child, independent of the content of any specific behavior" (Thomas, et al). It describes the how of behavior, without regard to ability or motivation.

The behavioral style of a child can be described in terms of nine categories of reactivity developed by the principal investigator and her co-workers in longitudinal studies of several different populations of children studied from birth. These nine categories are:

1. Activity level: The motor component present in a given child's functioning and the diurnal proportion of active and inactive periods.
2. Rhythmicity: The regularity and predictability of such functions as hunger, feeding pattern, elimination and sleep-wake cycle.
3. Approach or Withdrawal: The nature of the child's response to a new person, food or object.
4. Adaptability: The speed and ease with which current behavior can be modified in response to altered environmental structuring.
5. Intensity of Reaction: The energy level of response, irrespective of its quality or direction.
6. Threshold of Responsiveness: The intensity level of stimulation required to evoke a discernible response to sensory stimuli, environmental objects and social contacts.
7. Quality of Mood: The amount of pleasant, joyful or friendly behavior as contrasted with unpleasant, unfriendly behavior or crying.
8. Distractibility: The effectiveness of extraneous environmental stimuli in interfering with or in altering the direction of the ongoing behavior.

9. Attention Span and Persistence: The length of time a particular activity is pursued, and the continuation of an activity in the face of obstacles to maintaining the activity direction.

The scoring of behavioral style is organized to distinguish the normative range of temperamental attributes from the pathological extensions which may prove to have been indices of cerebral dysfunction when the follow-up study is done. Functioning which appears to be normal in the relatively protected pre-school environment may be succeeded by indications of stress in reaction to the greater demands for stimulus processing and organized response of the school environment. The scoring procedure is the same as that for the New York Longitudinal Study of middle-class and Puerto Rican working-class children.

I would like to mention briefly the question of the reliability of parent informants, since we depend on the parent interviews for much of our information about these rubella children. The methodology of data collection on developmental level and temperamental style is identical to that used in our earlier longitudinal studies and the techniques used to check reliability in these were applicable to the present study insofar as the samples match. In all situations, the scoring of data obtained on interview has been statistically compared with data obtained on observation and has been found to be in significant agreement.

Parental Attitudes

Data on parental attitudes and practices is gathered through a structured interview that includes questions on methods of care; correct or incorrect identification by the parents of the nature of the handicap; effect on the rest of the family of the presence of a defective child in terms of family mobility, unavailability of mother to respond to other sibs, understanding other sibs have of child's handicap and their reaction to it; degree of father's involvement in the care of the index child; manner of handling child's special needs; and attitudes toward the special demands imposed on the parents because of the handicap.

Parental functioning is evaluated on the basis of the interview responses, as well as the knowledge of the parents obtained by the staff of the Rubella Birth Defect Evaluation Project in the course of their ongoing contact with the families. Each set of parents is evaluated with regard to the following issues:

1. The correct or incorrect perception of the child's defect.
2. The presence or absence of significant modification of parents' style of living because of the defective child's presence in the home.
3. The parent's own statement of attitude toward the defective child.
4. Judgments as to whether parent handling of the child is appropriate or inappropriate.

Once the various parent interviews, tests and observations of each child have been completed and written up, they are submitted to the principal investigator who prepares a summary evaluation that is sent to the social workers of the Rubella Birth Defect Evaluation Project. On the basis of this behavioral profile and the medical reports, the social worker can then make the appropriate plans for treatment or education of the child.

The psychiatric summary includes statements about the child's physical defects, his overall behavior as it is culled from the parent interview, an explanation of parents' handling, a psychiatric diagnosis, psychological study findings, parental attitudes toward the child, parental attitudes toward abortion and, finally, a comment about whether there is a need for a parent informing interview. If one is recommended, suggestions about what should be covered by the Rubella Birth Defect Evaluation Project social worker are included in this report. Since our aim is not only to study these children for research purposes but also to provide services for them, this report serves as an important link between the various disciplines and provides the behavioral information required by the RBDEP to make appropriate plans for the child.

Although this project is not yet completed, preliminary analysis of the data reveal some trends which, though not definitive, are of great interest. I shall discuss briefly only the most important of these.

Of 132 children scored developmentally, 75 are normal for age. Of these, 46 children have an identified birth defect and 29 have no identified birth defect. Fifty-seven children have been found to be below age developmentally. Of these, 54 have an identified birth defect and 3 are classified as having no birth defect.

To date, 56 parental interviews have been scored quantitatively for temperamental style. Of these, 27 children seem to fall within a normative range of temperamental behavior. Of these 27 subjects, 13 have no identified physical defect, 12 have varying degrees of hearing loss, one has both auditory and visual impairment and one suffers from congenital cardiac disease. The other 29 children show evidence of psychomotor retardation ranging from mild to severe and all but one of this group have an additional physical impairment.

In comparison to the scores of children in the New York Longitudinal Study, the rubella children show higher activity scores in reaction to stress and frustration; more irregular biological functioning; relative non-adaptability to daily routines; increased sensitivity to stimuli; an increased proportion of high intensity scores due to temper tantrums; and a disproportionate number of negative mood responses. No final conclusions can be drawn until a greater number of children are evaluated, but these trends have persisted since analysis was begun.

A total of 67 children have been seen for psychological evaluation. Fifty-six were testable and an accurate measurement of the intellectual functioning could be made. Seven were severely retarded; 8 were retarded; 11 were of low average intelligence; 22 were average; and 8 were bright normal. Of the 11 children who were not testable, usually because their cooperation could not be obtained, one appeared to be severely retarded and four seemed retarded. No reliable estimate could be made of the intelligence levels of the six others.

It has already become apparent from the final psychiatric evaluations that there is a significantly large number of autistic children in the group. One interesting hypothesis to explain the disproportion is that autism in these 4-year-old children may be a transitory phenomenon caused by a reduced sensorial input and a lag in the development of alternate pathways for dealing with the environment. In other words, the autism is certainly a true psychiatric disturbance at this time in a group of the children, but it is suggested that it may not have the degree of malignancy or permanency it has been assumed to imply in intact children. It therefore will be of utmost importance to see these children again when they are 8 or 9 years of age to see if the autistic symptoms remain. If our supposition is correct, its implications for remediation are obvious, since the earlier we can change the autistic pattern by forcing the children into contact with the environment by various methods, the easier it will be to insure the transitory nature of the psychiatric disorder.

Once all the data have been collected and categorized, we plan to make the following tabulations and correlations for the children with congenital rubella:

1. Patterns of behavioral style or temperament.
2. Frequency and severity of retardation in psychomotor development.
3. Types, frequency and severity of psychiatric syndromes.

4. Type and frequency of special parental concerns and disturbances in functioning with the child.

5. Association of each of these four items, singly or in combination, with the different types of physical defect.

6. Identification of the group of children with best functioning and development and the group with worst functioning and development. Correlations of functional level will then be made with temperament, retardation, psychiatric syndromes and physical defect.

Correlation will also be made between the rubella children with physical defects and a) the rubella children without obvious congenital handicaps and b) a control group of normal children whose mothers did not have rubella during pregnancy. These correlations will be made for temperament, psychomotor retardation and psychiatric disturbance.

It is expected that the children with congenital rubella will be followed by the Department of Pediatrics until it is possible to assess the full morbidity and mortality ascribable to the rubella infection. Assessments would then be made as to the children's intellectual functioning, adaptive behavior and psychiatric status. Such follow-up data will permit us to identify those features of earlier functioning and test findings that have the best predictive value.

The chief investigator has the responsibility of coordinating all the behavioral data and communicating our findings to the pediatrician in charge of the Rubella Birth Defect Evaluation Project. It is hoped, by this method, to avoid some of the compartmentalization that so often occurs when handling a multiply handicapped child.

All too often, in these cases, a child is seen by a large number of specialists - pediatrician, opthalmologist, audiologist, neurologist, cardiologist, orthopedist, psychiatrist, psychologist, social worker, teacher. Each of these people works in his own discipline and, within this framework, formulates a diagnosis and plan of action. Each, too, may then offer the parents his conclusions so that when a work-up has been completed the parents are bewildered by the fact that their child has been said to have slow motor development, retinopathy, behavior disorder, mental retardation, hypoplastic anemia, moderate deafness and so on. Such information can only confuse parents. They are given an overwhelming amount of information, yet little of it serves the purpose each diagnostician should have - to give individualized information about each child so that the parents know just what they are to do to optimize his development.

Teachers, on the other hand, are often not given enough information about the child to be able to work constructively with him. Because a great part of the responsibility for training the handicapped child belongs to the teacher, all that is known about the child's possibilities and limitations must be made available to her - and made available in a way that would be useful to her.

All specialists have developed their own professional vocabulary which further compounds the problem of communication.

Because it is clear to all of us that fragmented specialized knowledge can become an obstacle in the understanding of the individual child, we must apply ourselves to remedy this situation. I cannot think of any professional working with congenitally impaired children who could not translate his diagnostic statements into behavioral terms. The teacher has to know how the specific medical or psychological problem will affect the child's behavior in order to increase his ability to learn.

Thus, an opthalmologist should be able to say not only that the child has cataracts, but should explain what this visual problem implies in daily classroom activities. Similarly, the psychologist cannot be satisfied with relaying an IQ score to the teacher, but must be prepared to pinpoint the specific area of weakness in cognitive capacity. Each specialist should translate his diagnosis into behavioral terms describing what can be expected from a child in that particular area.

Therefore, one must continue to assign a high priority to the task of composing an overall picture of what is unique and what is general in the situation of the impaired child. This picture should be made comprehensible and relevant to all those whose aim is to help the child live a life as fulfilling as he has a right to expect.

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A PUBLIC SCHOOL PSYCHOLOGIST LOOKS AT THE PROBLEMS OF EDUCATING MULTI-HANDICAPPED CHILDREN

Mrs. Elizabeth Wright
Psychologist, Special Education
Oakland, California Unified School District

Sharon is a little girl who was seven in March. She lives in West Oakland, an area whose population is almost 100% Negro. She is one of 11 children. At least two of her siblings, and one cousin that I know of, are in programs for the retarded and/or educationally handicapped in their neighborhood school. Sharon attended kindergarten in this school last year, and began first grade there last September. Apparently her kindergarten teacher was worried about Sharon when she had her, but in a school with as many difficult and sick children as this school has, the referral got lost in the shuffle. Thus we find that the first time Sharon really came to the attention of any special person or agency was when her first grade teacher decided that she must be deaf because she neither responded to her, nor talked in class. The school nurse looked into the case, and referred Sharon's mother to Children's Hospital of the East Bay--but only for a check-up on her hearing.

The only medical data available to me is in notes included in the audiologist's report. I do not know their original source. They include: congenital heart disease with corrective surgery in 1962; visual "problems" (she wears glasses); slow speech development - said her first words at age 3; bilateral hearing loss. The audiologist also noted that Sharon did not speak during the examination.

As a result of this examination Sharon was observed in class by a teacher of the hard-of-hearing in Oakland. She had reservations about Sharon's ability to fit into her class, but she was willing to give it a try. So the transfer was made in January of this year. The teacher subsequently expressed concern about Sharon's poor adjustment at staff meetings, but nothing was done until about six weeks later when Sharon more or less blew the lid off the place. Her mother was asked to keep her home from school, and I was called in and asked to see if I could help with a more thorough evaluation of Sharon's problem.

Very briefly, the picture which presented itself was as follows. Sharon was functioning at about a four and a half year old level, and was in a program geared to children able to take part in a structured, academic program of speech development. She had been transfered from an all black school to one that was all white. She was being teased behind the teacher's back by children who were not being intentionally cruel, but who found good entertainment in her different language and behaviors when she was angry. Sharon was acting out her unhappiness in the only way she knew.

In March Sharon was again transfered. This time she returned to the local elementary school from which she was sent in January, but into a primary level EMR class. The initial assignment was for a trial half-day session, but within a few weeks was extended by

Sharon herself to a full day. Hopefully she now also has the hearing aid which was prescribed for her last October, but which she still was without in March.

Teri is another little girl with multiple problems. Her records read: C.P., spastic, mild diplegia, hyperactive, bilateral hearing loss. With her new aid she has fairly good speech, and appears to understand what is said to her by others. At the age of 6-3, she is functioning at almost a five-year-old level, using a non-verbal evaluation instrument. She has been at the school for orthopedically handicapped children for several years, but is to be moved into the class for hard-of-hearing youngsters in the fall.

Joann is a kindergarten dropout. She was evaluated last November, and the notation was made that she might be functioning more as a "trainable" child than "educable". She has both hearing and vision problems, poor manual dexterity, almost no speech, and a very short attention span. I was asked to see her because the staff at the TMR school felt that she was much better than children in their program. She was by then out of kindergarten, and enrolled only in a child care center for part of the day. There she had been receiving much individual attention from a staff member who had taken an interest in her, and was really making strides. She is still, however, functioning at a pre-kindergarten level. She is currently awaiting placement in a primary EMR class in the fall--or in an experimental class for multi-handicapped EMR children we are hoping to start.

My last child is Toni, who was six in November. The following data comes from her records--mild spastic diplegia; very slow development; external strabismus and myopia; hearing loss; unintelligible speech with lots of jargon. She wears glasses, and recently was fitted with a hearing aid. She appears to mimic speech very well, but her vocabulary is limited to a very few basic words. Toni was repeating kindergarten this last year, and was transferred from her original school to the elementary school which houses the programs for the deaf because they figured that's where she would eventually end up. So far she has not been accepted by any special education program, but we expect her to be in the experimental program mentioned above.

Why have I felt it necessary to bring these particular children to your attention? I'll get to that eventually; but, first, some observations. I sat here yesterday trying to decide what I as a psychologist who is not currently working in a program for the deaf-blind could bring to you that would be in any way meaningful to you and your work. I've expressed this to Phil on several occasions since he asked me to be on the program, and I do have serious doubts as to the efficacy of my being here.

At the same time I do have certain gripes--which I'm usually more willing to air informally than I am to stand up in front of a group such as this and be counted. And I think that one of the reasons for my being here is for me to say some of these things here.

Anyway, I kept listening to speakers, and most everything that I had felt was important to be said has been said by one or another of the speakers who have preceded me. These included such ideas as flexibility of program goals, the need for a broadly based, flexible training of teachers, realistic views of the child and his potential--neither being too overly optimistic nor giving up too soon, the importance of working with and understanding the needs of the parents, innovative techniques----the list could go on and on.

Why then did I find myself as I left here yesterday feeling angry? It's a fairly long, slow trip back across the Bay at 4:30 in the afternoon, and I had plenty of time to think about what was bothering me. It was basically the same problem that has hit me before at conferences such as this; and I think it is the main--really the only--reason why I am standing here right now. It is my very strong conviction that teachers of handicapped children, and you who are working with multi-handicapped children in particular, have a most important role in spreading knowledge and understanding of the needs of these children. You must work at doing this; and you must work at not becoming rigid and inflexible in your own programs.

What I'm about to do is take on a few sacred cows. If my remarks come out sounding like I've been taking in some of your off-the-cuff comments, and am handing them back to you in a vindictive, negative manner---please don't be too hard on me, because it's not meant that way. I'm only concerned with positive results;

and I'm not pointing the finger at any one person or group.

I came here expecting to hear about programs which were servicing four-year-old children whose mothers had had German measles, and who as a result are seriously handicapped in the sensory areas---with resultant developmental retardation. In fact, I had remarked at noon yesterday that I expected we would get a lot of repetition in programs and goals before the week was over. I was extremely surprised, therefore, to find out that many of the programs being discussed had wide variations in age of their children, degree of impairment, and muddying (if you wish to call it that) of the sample by extraneous factors such as cultural deprivation and/or other SES differences. I gathered from comments that this variation in populations was being recognized by others---and that some people were becoming defensive about the slower results being obtained in their programs as compared to some of the others. I can only say, _what difference does it make_!

Every child who has been served, or who is now being served, or who will be served by every program represented here is One Important Person. His needs must be ascertained as accurately as possible, his strengths evaluated and used, and he should be brought as far along his continuum of development as it is possible to bring him. And not a one of you who sets this as your goal need feel defensive if you don't have spectacular statistics to quote in the end.

Furthermore, I feel very strongly that every person here has an obligation to himself and to the other professionals with whom he comes into contact to use the time this week broadening his own understanding of multi-handicapped children. You are the people in your communities who should recognize the problems of children who are multi-handicapped---even though not as severely as those in your own groups; and you should be in the best spots for helping to get services for those children. That's why I wanted you to hear about Sharon and Joann and Teri and Toni. Two of these girls are rubella babies; one, maybe; one is not. But that's not the important thing. What matters is that they were all in need of specialized services this year, they all present a complex and unique pattern of disabilities and deficits, and they are all representative of boys and girls in school programs everywhere.

I don't know how many of you are familiar with a report on the incidence of rubella in California which was presented to the State Legislature in January. I don't have a copy of the report, but I do have the statistics I jotted down when I heard the author, Dr. Anthony Guidon, speak---and they are staggering. He used four studies in arriving at his figures, and he seemed to have confidence in them. I'd like to quote a few.

Dr. Guidon said that 10% of all births in the 1964-65 period were affected by rubella---of this number, 40% (or 14,000) survived. Of these survivors there were 2,397 (or 16%) with significant handicaps, half of which were profound multi-handicaps.

He said that 30% of the 2,400 children have visual impairments (that's 719), almost half have cardiac defects needing surgery, 51%

have auditory handicaps, 54% are developmentally retarded, and 98%[1] are mentally retarded. (Here I must add that I find this statistic hard to swallow because I don't think it is possible to accurately assess cognitive potential, only current level of functioning.) In addition, he said that a large number (no statistics in my notes) have dental abnormalities which cause speech difficulties, and from 10 to 12% have orthopedic problems. Of the 50% whom he indicated were multi-handicapped, 65% have two of the handicaps listed, 25% have three, and 10% have four or more.

Now, many--if not all--of the children you have in your programs fall into the three or four-plus handicap group, using Guidon's listing. So all of you are working with the most deprived youngsters. But I feel it behooves all of you to use your training and knowledge---which is so much deeper and broader than that of most people in the field of education---to help your less fortunate colleagues understand and accept the children who are not so seriously involved. You are all teachers of multi-handicapped children--not just of deaf-blind children. You have understandings and skills far beyond those of many regular school teachers. You are here to increase those skills and that knowledge so that you may become even more effective in your own teaching, and so that you, in turn, can pass on some of what you have learned to others. And we all have so much to learn!

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[1] This figure was in error. The correct percentage for mentally retarded is 50%.

Coincidentally, I received in yesterday's mail two brochures describing meetings to be held later this year. I brought them along to share with you. Now, neither of these programs specify that they will help you with deaf-blind children; but I know I have never yet attended a conference from which I gained absolutely nothing. So, please, keep open minds, be flexible, be happy with what you are doing, and remember that our programs are developed to meet the needs of the children in them---and not the other way around.

I'd like to close by describing something to you that is sort of 'way out." You might even consider it a little psychedelic. A friend of mine who knew I was speaking here today gave me this copy of the Devereux Forum the other day. In it is a report of an experiment in the teaching of speech to two subjects using systematic visual-color reinforcement in an operant conditioning manner. If any of you have seen Lovaas' film of his work in teaching speech to echolalic and mute children, you will remember that he attempts to reinforce only very distant approximations to the desired sound at first---gradually requiring closer and closer accuracy in order to receive the reward. The experimenter in this study was testing the hypothesis that visual-color stimuli produced on a screen connected to the microphone used by the subject (the light-show technique) would aid in the development of speech sounds and also increase the frequency of verbalization. With an N of 2---one 31-year-old male with moderate retardation, and one 8-year-old autistic boy---his results are very nebulous; but I couldn't help thinking that this is something worth thinking about in developing speech with partially sighted, deaf children who appear to react to color stimuli in a positive manner.

PRE-SCHOOL DEAF-BLIND CHILDREN
IN A
HEARING AND SPEECH CENTER

Mary Ann Ceriotti, Supervisor
Pilot Program for Deaf-Blind Children
San Francisco Hearing and Speech Center

The San Francisco Hearing and Speech Center has had a program for Pre-school Hearing Impaired Children for the past 18 years. During this time, we have received sporadic referrals of children with both auditory and visual impairments. In 1965 and 1966, because of Rubella epidemics in California, we saw increasing numbers of these children for audiologic evaluations. Since it is a policy of this Center to develop new rehabilitation programs when the need for them becomes apparent, we made a survey of the country to see what type of educational services were available for this kind of child. The survey revealed that very little was being done with deaf-blind children before the age of 5. From our educational experience with hearing impaired children and our knowledge of the way children learn, we knew that prime learning time for these children was being wasted and could never again be regained.

Our own staff had considerable experience in working with preschool hearing impaired children but we knew that there was a great deal for us to learn about vision. The Visual Research Division of the Institute of Medical Sciences of Presbyterian Medical Center provided help in this area.

We then decided to institute a one-year study of these children to determine whether we could develop a rehabilitation program which could be of significant help to them.

In November of 1966, the program for Children with Visual and Auditory Impairments was launched with a grant from the San Francisco Foundation. We defined our first problem as one of evaluation. In order to set up a meaningful program, a realistic appraisal of each child's abilities and limitations visually, auditorially, and behaviorally was made. Evaluations by an ophthalmologist and the fitting of correct lenses were required for each child. Research on developing a hearing test, which would take into account the limited response repertoire of these children, was begun. A conditioning procedure, using an auditory stimulus and an associated visual reward, Conditioned Audio-Visual Response audiometry was the outcome of this investigation.

A psychologist was given the task of developing a behavior profile for each child which was used as a baseline for evaluating progress when the profile was repeated at the end of each year.

Initially, six children were accepted into the program. These were the first six children referred to us by their physicians through the Variety Club workers. They ranged in age from two to four and a half years of age, and were seen in their own homes for most of the training sessions. We endeavored to structure the child's environment so that he was receiving the maximum amount of stimulation possible. We found that in many cases the parents were interpreting the words "deaf" and "blind" literally. Deaf is defined by Webster's

Dictionary as "deprived of hearing", and blind as "sightless". The parents assumed that the child could neither hear nor see anything and often imagined that he was unable to learn. Over half of the children had not as yet learned to walk. The parents had surmised that their mobility would be limited by their sensory deficits. We helped the parents teach them to walk and encouraged the parents to allow the child to enjoy sensory experiences through his own explorations. To insure that the child would have objects within reach at all times, we substituted baby-tenda type tables for the usual high chair with a small tray. We encouraged the parents to use a wide variety of toys from flashlights and giant magnifiers to color cones, touch toys with tactually interesting surfaces, and noise toys to increase the amount of auditory, visual, and tactile stimulation the children received. In addition to increasing the amount of stimulation available, we tried to insure that the stimulation was appropriate for each child and was directed specifically toward him. We encouraged the parents to use those toys from our own lending toy bank and the ones they themselves purchased which would be of value to the child, also, to use these toys at the child's eye level and within his field of vision. We utilized high intensity lamps to direct visual attention.

The first auditory amplification was usually a portable amplifier, which was used under close supervision by the staff. We endeavored to make the child aware of sound; especially those sounds in his own home and the sounds of speech. We worked to get each child to respond appropriately to sound and to train him for further testing so that his own wearable hearing aid could be recommended as soon as possible. Periodic re-evaluations by the ophthalmologist and the audiologist were made, and appropriate changes in lenses and hearing aids were recommended.

In the beginning stages, we found that individual training in the child's own home was the most effective method of teaching. The home is the ideal place to demonstrate to the parents the optimum use of those everyday situations and materials which are available to them in the teaching of listening, visual, motor, language and speech skills. The appointments were scheduled at varying times during the day to insure that the teacher would help the parents to learn how to use every opportunity to increase stimulation. We made sure that the teacher was with the mother at nap time, bath time, feeding time, and all other times when stimulation and training were important to the child.

A series of parent meetings was organized, at which the parents were given a chance to meet and exchange ideas under the leadership of the staff. The parents profited from the opportunity to discuss mutual problems, to find that they were not alone in having problems and often they were able to make suggestions to each other of ways that they had solved problems. One father constructed a walker from a table for his child. He lent this to other parents who were having difficulty with teaching their child to walk, and the walker is now at the Center for the use of any child who has difficulty walking.

In 1967, we began a project in conjunction with two graduate students in psychology from San Francisco State College using operant conditioning to establish a highly structured system of stimulus, response, and reward with the children. Operant techniques have been highly successful in ameliorating problems with emotionally disturbed and retarded children. We attempted to apply reinforcement principles to the testing and training of children with multiple sensory difficulties. The principles of operant conditioning permitted an avenue of communication with the children that had never previously been utilized. The initial project was designed to study whether multiple deficit, post rubella children would be able to learn specific task orientated behavior, and would apply it appropriately. When this experiment was proved successful, a second project to determine the child's visual threshold for light was instituted. A monograph on the results of both experiments is currently being prepared. In the first experiment we discovered that these children could learn using operant techniques. The second experiment, which I will briefly describe, was designed to make further use of the information we obtained. The parents were asked to bring the children to the Center after having been deprived of food for four hours. For most of the children this meant that they would have had only orange juice and a vitamin pill for breakfast. When the child arrived at the Center he was taken to a darkened room and seated before a stimulus display machine. The apparatus consisted of two keys, above each of which a slide which could cover the keys was mounted. A light stimulus was mounted below a plexiglass cover on each of the keys. The keys were hinged so that a record could be made of each response no matter where the key was depressed. In the early stages one key was left covered so that it was impossible for the child to fail. The child was trained to depress the lighted key whenever it was on by a prompt and fade procedure. Gradually the stimulus was switched from one key to another with the unlighted key always covered and the child's hand was prompted toward the lighted key. The child was considered to have mastered this phase of the training when he was making prompt, correct responses after a switch of keys was made. At this point the covers on both keys were removed and the light was switched from key to key at random intervals. When the child was regularly changing keys without error and was not making incorrect responses between changes, the training phase in gross light discrimination was considered accomplished. Then the experimenters began to reduce the intensity of the light until the child began to make errors. When this occurred the intensity was increased in smaller increments until the child began to respond correctly again. The procedure of decreasing and increasing in smaller increments was reinstituted until the point at which the child was responding correctly more than 50% of the time. This intensity was measured with a light meter. The entire procedure was repeated a number of times until the experimenters believed they had an accurate threshold measurement for light for each child.

The primary problem in using operant conditioning with Deaf-Blind children is to discover a powerful reinforcer. The use of M & M's is so universal in the experiments on operant learning that this is often called the M & M School of Learning. Deaf-Blind children, as you are all well aware, are not particularly fond of food and only one of the children we saw would accept M & M's. We began by asking the parents to list the child's favorite food. Over 100 different foods were tried in an effort to discover one that would be effective. The reinforcer which was found to be most accepted was half-melted Neopolitan ice cream. However, one child worked for bits of oatmeal cookies. For others, we found applesauce, crispy cereals, or a mixture of strawberries and cottage cheese to be effective. Once a reinforcer was discovered, the use of operant principles could be applied to the teaching of many of the skills which we were endeavoring to teach. Rewards were instrumental in getting the children to wear hearing aids and glasses without playing with them.

Based on behavior modification programming, these are the techniques we used for getting a child to wear his hearing aid without touching it:

1. Remove the hearing aid. Allow a day to elapse before attempting to work with the child.

2. Place the hearing aid in front of the child during his meal.

3. During succeeding meals, move the aid closer to the child until it is touching him.

4. While feeding the child, place the aid on him without inserting the earmold. If possible, secure the straps so that the child cannot remove them. Remove the aid before the end of the child's meal. Repeat this until the child is wearing the aid without protest.

5. When the child is wearing the hearing aid through the meal without protest, place the earmold in his ear for a brief period. Wait until he has been wearing the earmold without struggling for 30 seconds, then remove it from his ear. Gradually increase the time the child must wear the aid until he is wearing it throughout the meal.

6. Begin placing the aid and earmold on the child before his meal. Begin a few minutes before and play with the child until it is time for him to eat. Leave the aid on for a few minutes after the meal is over. Then remove it.

7. Gradually increase the length of time, before and after each meal, that the child is required to wear the aid. Play with the child for the first few minutes only.

8. When the child is wearing the aid and earmold for one hour before and after each meal, leave the aid on all day. Remove it for brief periods (a few minutes) and replace it. Play with the child for a few minutes after the aid has been placed on him.

9. If the child begins removing his aid in the future, perform that portion of the program which is appropriate.

In 1968 we discontinued the home visitation portion of the program because of the time involved in traveling to and from homes, a limited staff, and because we believed the children were ready for group experiences. This eliminated from the program a number of children whose parents lived great distances from the Center. We found that those parents who were willing to make the effort to bring their children to the Center were those who were highly motivated to do the most they could for their children at home.

The children came to the Center once or twice a week during this time. One child with auditory and visual impairments was accepted into each of our Nursery School Classes for Hearing Impaired Children. The hearing impaired children in this group ranged from 2 to 3 years of age. One staff member was with the child at all times to insure that he received the maximum amount of stimulation. The children were in the nursery for two and one half hours. The nursery school teacher was specifically trained in Early Childhood Education and not as a teacher of the deaf. The activities in the nursery school were those which would be found in any typical nursery school. However, the teacher, instead of making the materials available and encouraging each child to participate, insisted that the children join the activities. We found that the children had individual preferences for activities. Only one child enjoyed finger painting, the other children recoiled from this activity. Several of the children enjoyed pasting when the task was broken down into simple steps. All of the children enjoyed the slide and the rocking boat but only one would climb the climber. One of the children developed a favorite toy and would go to the closet where it was kept to ask for the specific toy. One child developed a sense of color and would pick out a specific color consistently when given a choice of colors. Snack time in the nursery school was somewhat of a problem but the children did learn to sit quietly in a chair when this occurred. Some of the children learned to accept juice and cookies. For a portion of each day the child was taken out of the group for training in the operant conditioning experiment. These sessions lasted from 20 to 30 minutes of the time he spent at the Center. The child was also taken out of the group for individual training in auditory awareness and beginning imitation of speech and language for 20 minutes to a half hour.

Some of the other children in the group were a great help in getting the child to join activities. One two year old appointed herself "little mother" and made sure that the deaf-blind child joined the activities and remained in the group.

The only prerequisite to joining the group in the nursery school was that the child must be able to walk. We are still seeing several children on an individual basis. One is a 16-month-old child whom we began to see in the past two months. She is not yet ready for group experiences. Another is a child who attends a program in her local school district. We have been attempting to discover an effective reinforcer in order to modify this child's behavior so that she will accept amplification. Thus far we have only been successful in getting her to wear an amplifier for a short period while she is in a walker.

Twenty-two children have been involved in the program since its inception. Their ages on admittance ranged from 14 months to 6 years, 2 months. No selection of cases was made in this program. All young children with auditory and visual impairments who were referred to the Center and were able to come to the Center were accepted. Not all of the children were seen in all of the phases of the program. Of the six children who were in the original pilot program only one is still in the program. One is in a program for hearing impaired children in her local community, one is in a preschool program for the multiple handicapped, one is in the deaf-blind program at the School for the Blind in Berkeley, one has been admitted to an institution, and one has discontinued since the program has been only at the Center. Seven of the children were discontinued when the home visitation program was dropped because the distance to the Center was too great or the parents were unable to bring the child to the Center. In addition to the children in the pilot program, one other child was placed in a class for hearing impaired children in her community and one other child was institutionalized.

Seven children have just completed the nursery school year at the Center. Several of these will continue in the summer program of individual therapy and in the operant conditioning portion of the program.

Evaluating a child's progress in the absence of objective tests is a difficult procedure. Perhaps we shall not be fully able to do so until the children are much older and the effects of early stimulation can be objectively assessed.

At the present time we are limited to a description of observations of behavioral change. Not all of the children exhibited the same amount of change nor did they all progress at the same rate.

All of the children are more aware of their environment. Their mobility has increased and they can walk through a room avoiding simple hazards. They have learned to recognize family members, staff members, and frequently encountered adults. While there have been varying degrees of interaction with the hearing impaired children in the nursery school, we believe that all the Auditorially and Visually Impaired Children have profited from contact with the other children in the nursery school in a supervised play situation. Some of the children have asserted themselves when another child tried to take away a toy. Some of the children have learned to climb stairs, to respond to gross motor activities such as jumping, lying down, and standing up. All have learned to carry objects. Self-stimulation has decreased in the time that the children have been at the Center. We found that individual attention was much more profitable than group work in all phases of the training. Almost all of the children have accepted hearing aids and amplification. Some of them are beginning to pay purposive attention to speech and others give little or no attention to speech. All of the children vocalize freely, some are beginning to take part in vocal games waiting for the teacher to finish making a sound before making an attempt to imitate that sound. One of the children has developed purposeful speech.

With the success of the research projects in operant learning we are convinced that this is a highly effective method of testing and training deaf-blind children. We are in the process of developing a match to sample machine which with the information we now have about the child's responses to light, we hope to teach color discrimination and form perception. The use of operant learning techniques would be facilitated by the ability to have control over the child's environment for 24 hours a day. Learning would be able to proceed at a much faster rate if the intercession gaps caused by the parents' inability to bring the child in for training were eliminated. There were many sessions in which shortly after beginning to work with the child it was obvious that he had previously been fed.

Conditioned Audio Visual Response Audiometry has been successful in testing a number of children. However, there are some children who have not responded to this technique and we are designing a project to use operant conditioning in an auditory test to see if we can get more valid assessments of the child's hearing.

We are convinced that we are not seeing these children early enough. As soon as the problem has been defined, counselling and support of the parents in the techniques of stimulation must be instigated. Home visitation and counselling of the parents must begin before a child has had a chance to develop the techniques of self stimulation. We know from the work being done with young hearing impaired children that the critical age for a child to make maximum use of his residual hearing is before his first birthday. We believe tactual and visual stimulation should also begin at this early age.

suitable environment the [illegible] because [illegible] such factors as the [illegible] the parents' [illegible] [illegible] playing [illegible] upon [illegible]

[illegible]

[illegible] because one of the [illegible] is before [illegible] early age.

A REVIEW OF THE EDUCATIONAL PROGRAM
AT
MICHIGAN SCHOOL FOR THE BLIND
AND THE
TEACHER PREPARATION PROGRAM
AT
MICHIGAN STATE UNIVERSITY

Jean Esche
Instructor, Special Education
Michican State University
Teacher, Michigan School for the Blind

Education for deaf-blind children in Michigan is twenty years old while the teacher preparation program in the area has just completed its first year. The mutual support and cooperation of Michigan State University and the Michigan School for the Blind has produced a unique program for the education of deaf-blind children and teacher preparation for young people interested in this area of education. The benefits provided to each institution is vitally important to its continued growth and progress. The direct contact with a wide range of learning levels and experiences in the deaf-blind department at the Michigan School for the Blind provides an excellent preparation for student teachers and interns. The increased enrollment of young adults in the University program has given the deaf-blind children their most valuable aid - the personnel for increased individual help enabling more young children to be enrolled.

Michigan State University trains more elementary teachers than any other university in the world; approximately 3,000 students graduate every year. Of this number, a large percentage of students are majoring in special education, thus reflecting an increased enrollment for the education of the deaf-blind. This first year with formal college training completed, one intern joined the teaching staff of the deaf-blind department, next year there will be five interns. Presently, the quota for interns per year is limited to five, however, as the department expands more interns will be accepted.

If the student declares his major at the beginning of the college program, the university curriculum provides an opportunity for observation of the specialized area beginning in the Freshman year. Each year, the student's active participation is increased through formal observation periods, teacher-aide work, specific courses and student teaching. Even with heavy emphasis on specialization, the students are given a broad program in the liberal arts during their first two years of college. During the third year at Michigan State University, they study elementary school teaching methods and methods for the visually impaired which are integrated with their student teaching both in the public schools and in the area of specialization. In addition to the four year course, the intern program requires two, ten-week summer sessions. A student may complete the first two years at any accredited college or university, however, each student taking this work must follow the intern program; that is, they must teach their final year of college as an intern and complete the required courses of methods and language for the deaf-blind. The University has now developed a five-year program omitting the summer school, if this is preferred. No graduate credit is given for the additional hours, however, arrangements may be made for a graduate student desiring to enter the field to earn a masters degree. Two years of work are required - one as an intern. If the candidate has been previously trained as a teacher of the deaf, the work may be completed in five terms, i.e. one year and two summer sessions. Interns receive a partial salary and are granted a second year teacher status when they accept their first position. They also receive certification in the work for the deaf-blind and the visually handicapped.

The deaf-blind department at the Michigan School for the Blind admitted three-year-old children for the first time this past year. This new phase of the program followed a detailed study concerning the needs, degree of handicap and probable admission date according to age of the child. During the winter of 1968, the Michigan School for the Blind conducted a survey in an attempt to estimate the number of young rubella children in the State. Over 7,600 cards were mailed to all physicians of the Michigan State Medical Society. Of these, 580 were returned! The following summer, the cooperating doctors were contacted for identification and addresses of the children. Also major children's hospitals and clinics, social service agencies for the blind or the deaf, classes for the visually or auditorially handicapped and rehabilitation centers were contacted. Each child and his family located through these various agencies was visited by a teacher of the Michigan School for the Blind. The families were counselled as to their needs or special problems. The program for the deaf-blind children offered by the school was described and explained to the parents which greatly alleviated some of the worries and indecisions for future school or institution placement. Many of the parents and even doctors had been unaware of this special program offered to deaf-blind children. During the visits, pertinent data and information about the child was recorded and some evaluation of the child was made. If needed, toys or other materials were left with the children. In all, 27 children were seen during the summer. In spite of these efforts, new children are constantly being found.

To acquaint the parents with the facilities of the Michigan School for the Blind, they were invited to visit the school at any time during the year. They were further encouraged to attend the annual Spring Parent Institute held on the campus. This Institute consisted of discussion periods and lectures for the parents and demonstrations with all deaf-blind students in the department. The children were in supervised play rooms and cared for by the school staff in one of the cottages. The parents met with the administration, teachers, houseparents and also toured the facilities of the school. Parental worries about a young child leaving home were greatly reduced by this actual contact with a warm, home-like atmosphere. Basic needs of these parents have been met by the progress seen in other students, the sharing of common interests and the unburdening of problems.

This summer (1969), a workshop is being held for the parents, their handicapped child and two other members of the family for a one or two week period (whichever is more convenient). The parents will combine vacation with work. They will participate in detailed discussion groups, lectures and study methods of working with their child. A teacher working with each child will demonstrate the basic techniques and then instruct the parents to work with their child themselves. Older brothers and sisters are invited as they may be of great assistance to the family and they must develop understanding for the rigorous training of a deaf-blind child. A recreational program is planned for the parents and children, with houseparents, nurses and teacher-aides on duty at all times. There is no cost to the participating families except for transportation and incidentals.

A great deal of stress has been placed on the parent program but for the benefit and growth of the child, parents must be willing to cooperate and actively participate in the education of the child. This is evidenced from many parent comments: "We didn't think he could be toilet trained", "He can't drink from a cup", "How do you make him bite or chew?", "He only eats baby foods", "He won't use a spoon", "He won't keep his glasses or hearing aid on", "He likes to look at lights!". The list could go on and on. The school now has a handbook of detailed suggestions for parents of deaf-blind babies. It is hoped this booklet will motivate and encourage parents during the early, developmental years of the infants.*

Another means used to alleviate parental anxieties and to provide assistance was accomplished by making home calls regularly to children in the local vicinity. Three children were visited once every week in Lansing all through the winter and spring of last year. These children were acquainted with new kinds of toys, sense training materials and babbling of speech sounds through vibration. The children had toys of their own but in most cases the parents had not persisted long enough or firmly enough for the child to learn how to use and enjoy them. Parents were given help and suggestions regarding toilet training, sleeping, eating, playing and the use of large play equipment. Before the visits, the parents were quite discouraged and many had already planned placement of their child in a custodial institution. Through the influence of an objective person, the parents renewed their determination and desire to help their child. The parents then brought the children to school two days a week the following summer. By using the same teacher and also having one parent with the child, it was much easier for the children to adjust to the new environment before enrolling in the early childhood development program in the Fall.

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*Available upon request: Michigan School for the Blind, Lansing, Mich.

In September 1968, five 3-year-olds came to school for half day; periods, next year all the children will be in school for the full day. Two of the boys were residential students, the other two boys and one girl were day students. The residential students lived in the cottage and remained there for the afternoon. One child took a nap after lunch, the other was kept active as he did not sleep well at night. A housemother and a teacher-aide were on duty during this time. These children showed a marked improvement in self-care compared to the day students, apparently due to the concentrated efforts and routine established throughout the year.

Two children did not walk, most of them ate only baby food, they did not use a spoon, one still drank from a bottle and none were toilet trained. The children all had some degree of vision and, from observation, indicated some residual hearing. Neither visual acuity nor degree of hearing could be definitely tested. All the children were very retarded in motor and social development.

Educationally, these rubellas seem to be a new breed of deaf-blind children. Sense training toys, play equipment, other children, teachers or parents, treats or any outside stimulus made very little impression - they appeared completely oblivious to their environment. Their day's activities consisted of lying on the floor, balancing on their heads, waving fingers in front of their eyes and light gazing. Light gazing is still a major problem and quite difficult to eliminate. The Maxfield-Buchholz Social Maturity Scale for Blind Pre-school Children, scored in the fall, indicated the social age of the children ranged from .75 months to 1.50 years.

These children never used their vision to full capacity. Usually, they took a very fleeting glance and then ignored the situation completely. For all practical purposes, they appeared totally blind. Some of them fell frequently and stumbled or bumped into obstacles. Stairs were especially hazardous. There is no means of demanding a child to use his vision. He cannot be cajoled or threatened - he must want to see. In individual work periods this task was very difficult and the child employed every means of not looking, such as rolling his eyes, covering his face or shutting his eyes. The same was true for hearing, but to a lesser degree, as the child could be bombarded with sound. A new sound would attract their attention briefly, but this too could be "switched off". All the children displayed a vigorous temper when not allowed to follow their own pursuits or have their own way. This temper seemed to be an indication that they were thinking and had mental capacity enough to express an attitude and be capable of some learning.

It seemed necessary to first instill in the child a desire for activity, movement, awareness of the surroundings, large muscle activities, use of residual vision and hearing. Shape and color sorting, form boards, sense training materials of all kinds were simply too advanced at this point. A different approach was then initiated to force the children to move, to explore, to increase the awareness of their own bodies without any stress being placed upon fine motor coordination. The first activity initiated was a swimming period one morning each week. This single experience would be a revelation to any teacher. The children suddenly seemed to wake up. They laughed, screamed and kicked happily - totally different from the classroom appearance. A few had some fear of the water but after four months, all became perfectly relaxed in their attempts to float. They even permitted their faces and heads to be underwater and enjoyed it. They vocalized more, used body muscles, established more rapport with the teacher than previously and showed anticipation of an event. On entering the dressing rooms, the children began to smile, laugh and even walk to the door of the pool.

Tumbling was another activity which seemed to be very profitable in reaching the desired goals. Two days a week the children went to the mat room of the gym. They were given various exercises to make them move, promote muscle development and awareness. The children turned sommersaults, log-rolls, rolled in large drums, ran and jumped. It should be noted that each child had to be aided by an adult at all times to keep moving; as soon as help was withdrawn, the child would lie on the floor or wander aimlessly about the room. No activity was self-initiated. Along with the teachers and the teacher-aide, two high school seniors also assisted an hour each morning during the physical exercise periods.

This approach to movement is also supported by the work being done at the well-known Instituut voorDoven in the Netherlands. Last winter, the Michigan School for the Blind was represented there in a workshop program for teachers of the deaf-blind. European lecturers stressed the need for movement with sound, awareness and anticipation again and again through activities such as these. Based on the experiences gained from this two month workshop, the Michigan School for the Blind introduced new variations of rhythm and perception training. The children were led through drills using a large, bass drum, always accompanied by an adult. The object was to make the children move with the sound of the drum, establishing the awareness of the presence or absence of sound and the discrimination of beat. The beat was varied - slow for walking or fast for running. Sound boxes and wooden floors were used to attain full volume. The children were also taught to jump from one colored spot to another when hearing the sound. Colored pieces of paper glued to the floor worked quite well; also, small hoops or rings were used to jump or step into. Various other activities have been suggested by the teachers themselves and the physical education department at the Michigan School for the Blind and the department in the Netherlands.

Following is a list of perceptual training activities:

- walk or crawl along benches - straight line or set in pattern
- walk or crawl under benches
- move on back under benches
- any activity with a box such as crawling in or out of it
- activity with a barrel - crawling into, rolling, rolling while inside, getting out, pushing, etc.
- following patterns - gross body movements, creeping, duck walk, tip-toe, bending or twisting of body
- using colored tape on floor: crawl a line, walk a line, crawl or walk between lines, jump or crawl over lines, stand on one foot on line, step into parts as if the tape were a ladder (small spaces and large spaces), walk in pattern of tape, circle, square, triangle, free form
- jump off low step
- walk on rope pattern
- crawl over rope pattern
- roll down hill
- roll up hill
- use tires or inner tube to step into
- activities with balls, rolling, bouncing, kicking
- large balls for the child to roll over

- reaching up for something tied to a string from above

- carrying object from one place to another

- soft clay

- painting and finger painting

The children have also been given much help and work in climbing ladders, sliding, swinging, riding a tricycle, following a "come" geature and self-care. At this point, self-care is too difficult for most of them but progress has been made in all areas.

Currently, three children are on medication, Ritalin or Dexedrine, prescribed by their family physicians. It appears that the children have benefited - concentration, tolerance for frustration, awareness of objects and people have shown improvement.

Parents are asked to come to school for periodic conferences and observation of their child. Overnight accommodations and meals are provided if the distance to school causes a burden to the parents. Formal report letters are sent to the parents every two months, however, most parents are seen informally on the weekends when they come for the children.

Enrollment plans for the '69-'70 school year include additional rubella children, doubling the number presently enrolled. An increase of facilities, teachers, aides, houseparents, and equipment is planned. Long-range goals and decisions must be discussed and solved.

Some of the current questions now facing departmental expansion include:

> Should the school provide a trainable program in conjunction with an educable program?

Should the school admit day students as residential students?

Should 3-year-olds or younger children be enrolled as residential students?

How can parents increase their school participation?

Should "mother-aide" be compulsory?

Should the school provide regular parent counseling?

Diagnosticians, administrators and staff will be evaluating and revising the many facets of the program as the exposure to these children is continued and their multiplicity of handicaps are recognized. Michigan is aware of its responsibilities to these children; it is looking ahead with enthusiasm and realistic goals.

A PILOT PROGRAM FOR PRE-SCHOOL RUBELLA CHILDREN

Mr. Roger Walker
Assistant Principal
New York Institute for the
Education of the Blind

The New York Institute for the Education of the Blind has for 30 years conducted a program for deaf-blind children. In 1956, a small unit for cerebral-palsy blind youngsters was established. Those of us who are responsible for residential programs are well aware of the increasing numbers of legally blind children with secondary handicaps who are being referred to our program. This has been dramatically apparent even prior to the rubella crisis.

Approximately 18 months ago the Board of Managers of the Institute approved a 2.2 million dollar building program to expand our facilities for multi-handicapped blind children, a comprehensive unit initially capable of servicing 75 children with design features incorporated to easily accommodate an additional 40 youngsters should we need to do so. The building is scheduled for occupancy in September of 1970.

However, the need for programs for rubella syndrome children in metropolitan New York is staggering and the need is immediate. Therefore, in September of 1968 at the request and cooperation of state and local school authorities, medical programs and community service agencies, a pilot program for 20 multi-handicapped children was initiated. Included in the group were 16 youngsters born of the 1964-65 rubella epidemic; 1 eight-year-old rubella boy and 3 pre-school age children functioning on levels comparable to the first described but not medically diagnosed as rubella.

The children attend the school on a residential basis, Monday morning through Friday afternoon, and are transported to and from the program on an individual basis by the parents. A great deal of thought went into our final decision to make this a residential program and:

1. Was the basic concept of removing a four-year-old from his home sound?
2. Could we cope with 20 youngsters who, for the most part, had no self-help skills?
3. Could we find space in our existing facilities to accommodate 20 children and the staff necessary to service a group of this size?

All answers to these questions were, of course, in the positive.

The Medical evaluations and on-going medical services provided by Dr. Louis Z. Cooper and his staff at the Rubella Evaluation Project of the New York University Medical Center for the majority of the group are obviously of the highest order. The supporting parental counseling and home visits provided by Mrs. Edith Patt and her Industrial Home for the Blind staff made the transition from home to school less difficult for the child, the family and, of course, our Institute staff.

The children in the program ran the gamut in terms of severity of their handicapping conditions. At the time of admission, one child was toilet trained, all but 2 took liquids from a bottle only and ate a diet of pureed baby foods, one was non-ambulatory and 2 walked only with great assistance. Obviously, our greatest emphasis initially had to be on establishing a climate for learning and the teaching of self-help skills. A staff-pupil ratio was one to one and is imperative if any progress is to be made.

The content of our program was similar to those we have been hearing about and so to describe in detail our program content would be redundant.

After nine months what have we learned as we traveled this unchartered course?

1. Our original suspicion that these children needed a residential approach was reinforced time and time again. The dramatic improvements noted in the first months were only achieved because of the great continuity when 24-hour supervision by a trained staff is available. Parents no matter how willing and intelligent are incapable of making these demands 24 hours a day nor should they be criticized for this. However, receiving support 5 days a week and physical relief it was soon discovered that parents were able to accept their severely handicapped child on the weekend and work with him diligently to carry over the goals and techniques suggested by the rubella staff each Friday.

2. Parent involvement was extremely important. The referring agencies maintained their close contact with the families and with the program supervisor. The parents required and deserved constant support and recognition of their efforts. In the spring, groups of 4 parents were invited for all day visits to the program culminating in group discussions with the staff. These sessions, coupled with weekly individual conferences with the parents provided maximum parental involvement.

3. Was it worth the cost of nearly $16,000 per child for the 10-month program? Could we justify spending this much money on severely handicapped children? We feel, indeed, that this was money well spent for these reasons:

    a. We feel strongly that every child, no matter the degree of his handicap, deserves a fair trial period in a program appropriate to meet his needs.

b. We feel that parents, too, deserve the satisfaction of seeing their children worked with and not merely relegated to terminal placement immediately upon diagnosis.

We recognize full well that there will be children in our program who will, ultimately, be referred to state schools for the retarded. How much easier this decision will be for the parents to make when their child has been taught to care for his own needs. He does not have to wait for an already overburdened staff to feed, dress and toilet him.

4. Where do we find our children today?

   a. Only 2 are toilet trained;

   b. Nursing bottles were replaced with cups the first week;

   c. All are eating from a spoon or fork and chewing their solid diet;

   d. All have a clear concept of day and night and sleeping problems have been virtually eliminated;

   e. Residual hearing became apparent in many of the children very early in the program. We cannot overemphasize the importance of a good auditory training program;

   f. The attention span in most of the children is lengthening;

   g. They can handle objects and they will allow themselves to be handled;

   h. Two of the children are using appropriate speech;

   i. Most are cooperative in the speech program and are vocalizing and playing with their voices in an encouraging way;

   j. Many are making progress in dressing;

    k. All parents report that their children are becoming more a part of the family and that they are much less difficult to handle at home.

5. Children, as a whole, seem to have found a comfort and stability in the structure of the residential program. Because of this increased security which has come from the predicability of each day, the children are demonstrating increased confidence in themselves and beginning to relate slowly to others. We feel that the transfer from the home to the school on a 24-hour basis is directly responsible for the easy transition for most of the children drinking from a bottle to drinking from a cup; from the eating of a soft diet to chewing a normal variety of textured food. The frequent relegation of a child to a crib for prolonged hours established incredibly outlandish sleeping patterns. From the beginning in their new environment these negative influences were moved and the transition was natural and immediate. Of the 20 children who participated in the program, 5 are not being invited to participate in the September 1969 program. These are children with such severe neurological impairment as to make their prolonged participation in the program impossible. On the positive side, 2 children will enter the regular blind kindergarten at the Institute, 2 will be transferred to the deaf-blind program also at the Institute. Additional participants will be selected to participate in the program as it extends for another school year bringing the total enrollment in the project to 30.

Much has been written and said concerning the residential approach to the education of handicapped children. However, if there were ever justification for a residential approach, justification is in such a facility for the group which I've just described. For the family, as well as the child, it is the most efficient, expedient and effective approach which we could conceive.

THE ORGANIZATION AND CONTENT OF A PROGRAM FOR MULTI-HANDICAPPED, PRE-SCHOOL RUBELLA CHILDREN

Miss Theresa Malone, Teacher
Bellevue Hospital Experimental Pre-School

In October, 1967, the names of 54 children out of a possible 60 who had been rejected by other facilities throughout the community were referred by the Rubella Birth Defect Evaluation Project to the teachers for possible placement in the project. Of the 54, nineteen children were not seen for screening due to a variety of reasons. Eight children lived either in Nassau or Suffolk Counties, or New Jersey. Five had been referred to Willowbrook State Hospital on Staten Island, and were momentarily awaiting placement. One child's parents wished to keep him on an Industrial Home for the Blind Itinerant Teacher Program, while two other families were disheartened and disinterested. Two others had been accepted at existing programs in the city - one at St. Joseph's School for the Deaf, the other at the Queens County United Cerebral Palsy Unit.

Thirty-five children were seen for admission to the Experimental School and of this group, 17 were chosen to participate in the pre-school program. Of the remaining group of 18 children, 7 found it impossible to travel to the hospital by subway and/or bus. This transportation problem continued to cause us a great deal of difficulty. It caused the parent to arrive at school late or to miss appointments altogether. Special consideration had to be taken, however, when it was realized that some trips took well over one hour, involved changing trains several times, with resultant waits the rule rather than the exception. Two more of the remaining group left the country and returned to Puerto Rico. One child was accepted at a United Cerebral Palsy Program near his home, another at St. Joseph's School for the Deaf in an Infant Language Program, two were admitted as in-patients to the Institute of Physical Medicine and Rehabilitation for orthopedic therapy, and three were in-patients at Bellevue as wards of the State. Because of their availability, it was thought best to see these children at those times when scheduled children did not keep appointments. One child was held on a waiting list, to be an immediate replacement for any child who might drop out of the program.

Let us now examine the specific physical impairments which became our educational problems. Each of the 17 children had two or more of the following handicaps, secondary to viral Rubella.

Communication Disorder	17
Visual Impairment: Cataract (bilateral-unilateral) Glaucoma Retinal Pigmentation Strabismus Retinopathy Myopia Nystagmus Microthalmus	10
Psychomotor Retardation	16
Heart Disease	6
Autism	3
Cerebral Palsy-Spasticity	6

Since the children's dates of birth ranged from January, 1964, through March of 1965, most had passed their third birthday, and a few were only months away from the age of four. None had speech, few had any communication skills. None of the children were toilet trained, and only seven could eat independently. The remaining ten were for the most part still drinking from bottles and were unable to tolerate anything coarser than baby food.

In the beginning months of the project a parent group was formed under the direction of the Evaluation Projects Social Worker. Through group interaction, in an informal setting, the parents were brought into close contact with each other in common and shared goals. From previous experiences with these parents, it was realized that they held deep-seated and psychologically disturbing questions regarding the effects of their handicapped children on the family as a social unit, on the feasibility and effect of possible institutionalization; how family, relatives and society in general felt about handicapped children; and most importantly, if acceptance of their own child in the light of sound and realistic goals was possible.

They were able to exchange ideas about management - difficulties and problems encountered regarding toilet training, feeding and sleeping habits, discipline and the setting of limits, and social relationships. Through group support, parents felt better by knowing they were not alone, either in experiencing particular problems or in feeling inadequate in dealing with them. They were helped to share in the problem-solving process, and received related and specific support, meaningfully and individually interpreted.

Parental involvement and participation in this, one of the most significant learning tasks they had ever had to face, was vital. They were concerned - yet were afraid of this new and different role they were undertaking and reluctant to assume new responsibilities. The "old" way was not easy, but it was safer. Old approaches were wrong, but much more comfortable. In some cases, concern became alarm as unknown quantities were explored, as feelings and emotions once deliberately "shut-out" and avoided now had to be faced.

A complex internal mechanism was involved here and learning to understand how to deal with it involved planning, preparation and perseverance. It involved more than mere transmission of information. If we expected them to listen to us, we had to listen to them - as human individuals with feelings as well as problems. Until now these parents were the most significant persons in their childrens' lives. It was hoped to build on this availability and motivation to create significant change. With perseverance, would our parents open their eyes, ears and hearts? If they did listen and see, would they learn?

The children were first brought to school in late October, 1967. Initially, they were seen on an individual basis for approximately 45 minutes to one hour, depending on their tolerance level and attention span. There were children admitted to the program whose behavior and intellectual functionings were so infantile, aimless and disorganized that they needed intensive training on a one-to-one basis before they could begin to function meaningfully. Generally, they were restless and hyperactive, and had to be trained to sit in a chair, to make eye contact, to look, to attend. Frequency of attendance for individual children ranged from 2 to 5 times a week.

Three teachers, myself, a pre-school teacher of the deaf, another teacher (a man) from the Bureau of the Visually Handicapped, and the third experienced with children with emotional disturbances were part of the teaching staff. Neither had worked with babies before. We worked with 4 or 5 children in the course of the day, therefore, there were 3 children and 3 teachers in the room simultaneously, each working individually.

Teacher responsibility was initially based on the primary handicap of each child related to his/her own discipline, but this seemingly logical approach proved to be cumbersome, as specific discipline techniques did not always prove effective. We tried alternating different children for certain segments of time with the aim of exposing the child to the particular skills of each teacher. We felt that such a shift would remotivate the child's possible attention lag. Again, we found this was not the best way. Most of the children needed a great deal of structure and direction, and until they began to get used to one specific approach, regardless of presumed advantages, progress was not evident. They did not need variety, they needed consistency. Change of method, of personality, of aim, only further confused them. Although our attitudes toward the children were generally akin, we differed in ways of approach. It was only after several weeks, even months, of working with the children, with each other, that we became a cohesive teaching unit. Natural likes and dislikes were expressed, ease of, or lack of ability to 'get through' to individual children was examined, constantly changing areas of deficit and ability were explored, with the result that eventual and successful teacher-child preferences were achieved.

By means of dialogue while on the job, by questions quickly asked and immediately answered, by showing, by doing, by specific responses made, relating one discipline with the other and by the inordinate amount of help we gave each other--were we able to help train each other. Rapport, understanding, acceptance, an ability to express to others knowledge about ones own field, adaptation, experimentation, creativity, objectivity, a liking for this type of handicapped child, consistency of expectations and limitations, an ability to diagnose and habilitate, and derivation of inspiration and satisfaction from honest effort expended were teacher qualities I found to be absolutely essential.

Intensive work was required before the children learned to live within this highly structured environment. It was months before there was acceptance of limit setting. Their perception of the world was disoriented, vague. They had little conception of space, size, and shape.

Attention was focused on the child's handling of materials, manipulation and eye-hand coordination. Auditory reception and response training games were done over and over. We had a difficult time determining if the child had the capacity to learn even a simple conditioned response. Some seemed unable to understand or follow anything beyond the most obvious and concrete. The presence of inner language was tested, the comprehension of gestures observed. We found it difficult to define terms and develop classifications. The area of communication was the most baffling and complex of all. Audiological testing was and still is, very difficult. Some children cannot differentiate, and all sounds achieve equality of importance. Responses to gross, to speech sounds were rarely consistent.

Within the course of the beginning months the children were fitted with hearing aids in an attempt to make them more aware of the outside world, of themselves. An increase of babble was the sometimes result; with others the aid made no difference. Vocalization became loud, raucous crying, or perseverative sound combinations. Few used their voice to communicate; they made no attempt to imitate.

Our assessments were never complete, never final. It has proven to be an on-going and continuous process. New developments and observations constantly challenge the validity of our original findings.

Play equipment was kept in cubbies placed around the room, and was made available to the children by free choice. The amount of equipment was initially limited to help these children who would tend to be overly stimulated. The intent was not to create a 'dull' environment, but rather one in which the child would find it more comfortable to function. With certain children who were unable to make choices, procedure was teacher structured.

Toys which we found most useful were: tree cone, animal figures, walking animals, penny banks, stringing and push-pull beads, mailbox, kegs, puzzles, paper and crayons, marble game, etc.

When it was realized that some children had begun to recognize and accept teacher control, we knew they would benefit more from a group than from an individual setting. The one-to-one relationship only increased and perpetuated their need to cling to a teacher dependency figure. Therefore, in March, 1968, it was decided to combine several of the children into a nursery group. The major consideration in making such a unit was psycho-social development. Five of the 'best' were so grouped, presenting a wide range of individual differences and needs. By choosing only five, these differences could be given special attention.

However, a collection of children of this 'type' could hardly be considered a 'group' in the technical sense, since many of the children lacked skills necessary for solitary play, let alone cooperative play. Several did not relate to adults, let alone peers. Yet, we wanted to be able to observe the childrens' reactions when faced with new learnings and situations. This teacher-child feedback would give us new insights into the childrens' problems and potentials.

The need for organization and structure was necessary, for we knew the children could not function without stability and direction. Occasionally, if the program was deliberately allowed to become unstructured, emotional and behavioral disturbances resulted - stress, frustration and temper tantrums. When activities were balanced and directed, children helped each other through the interactions. The teachers became 'play partners'. Through activities such as block building for example, and by a teacher's direct involvement and her deliberate interaction techniques, children began to share these experiences with her; eventually, with each other. When some spontaneous initiation with little teacher direction took place, specific projects were undertaken which required group participation, i.e., pasting, string painting, making play dough, etc. With the emphasis now on group involvements, the existing play equipment was added to accordingly. For the most part, new materials were duplicates of those found in most pre-school classes. Bicycles, wagons, hobby horses, a carriage, doll and doll's clothing, housekeeping furniture are typical examples. To help the children with auditory awareness, an induction loop amplification unit was installed. Bus transportation was provided for the 'group' children on a 3-day a week basis, and the day began at 8 o'clock when the first bus arrived. Each child came on a different bus, at a different time, depending on where the child lived within the four boroughs (no bus transportation is provided between Manhattan and Staten Island). Rides of over 1 hour (from Queens) seemed to make little difference in the childrens' school performance.

In the early morning we had play and activities involving the use of: large and small movable toys - pushing, pulling; up and down stairs; balance board, walking board; rolling, catching and throwing balls; crawling; block building.

9:30-9:50

Snack - involved tasks of self-care; learning to put on and take off bibs, washing and drying hands; learning to wait.

9:50-10:30

Quiet Games - puzzles, color cone, keys, cups, beads, finger and easel paint, clay (feel, pound, squeeze), etc.

10:30-11:00

Music. I will elaborate on this in a moment.

10:30-11:00

Activities - making jello, pudding, play dough (to stir, beat, taste, feel - hot, cold - smell).

11:00-11:30

Outdoor Play - dressing (buttoning, unbuttoning, putting on and taking off clothing), opening, closing yard door, etc.

11:30-12:15

Lunch-Learning: How to -

swallow
eat solids (progressing from bottle to baby food, to toddler food, to solids)
eat with a spoon
eat independently
sit, wait

12:15-1:30

Naps - routines - go from lunch area to cots.

Music Program - we were most fortunate in obtaining the services of a music therapist from the Children's Recreational Services of Bellevue

Hospital. Though unfamiliar with Rubella children, this teacher quickly adapted to our extremely fretful, easily upset, emotionally tense, non-verbal children.

For two half-hour sessions per week, the music period became part of our program. It took place at the same time, in the same corner area of the room, with the same procedures followed at each session. We began with the autoharp, as the children took turns strumming the strings with a metal pick. An attempt was made to elicit vocal responses, taking the form of repetition of easily visible music syllables. Physical movements (clapping, rolling, shaking of hands, stamping of feet, whirling movements made with balloons and brightly colored crepe papers), were also attempted in imitation of the teacher's actions.

Percussion instruments were gradually introduced. Bells were among the first used, with emphasis placed on starting and stopping together. In time, we were able to handle tambourines, cymbals, wooden sticks and the favorite, a large and loudly vibrant floor drum. The obvious joy and delight some of the children derived from using these instruments was encouraged by our warm response and loud applause.

One of the more appropriate 'toys' used during this period, and which seemed to hold the child's interest for longer than usual periods of time was a ten-inch loosely-jointed wooden figure, held suspended over a wooden paddle. The children had to learn to hold the suspension stick or push the paddle up and down, or simply watch.

At times we found that we had all we could do to keep the children in their seats, and had to sit behind, next to, or hold them in our laps to insure minutes, or seconds of attention. The children could neither concentrate for longer periods of time, nor were they able to imitate gross motor movements. Gesture comprehension was poor, and actual physical assistance was required before a child could rise from his seat, come forward, and return to his seat. We were seldom still in our efforts to control and structure behavioral responses.

The children then moved about and general circle games were attempted. Simple rhythms, i.e., walking, running, swinging one's legs, dancing into the center and away again, falling down, jumping, etc. were tried. The children found it difficult to use their limbs properly when moving about in this manner. Restanding after a fall took a great deal of effort. This activity was accompanied by appropriate drum rhythms (i.e., fast, slow, loud, soft, with surprise stops).

Even with simple and direct approaches, our children found it hard to focus their attention on auditory or visual stimuli, their responses were disorganized, they could not keep time to the music, and their coordination was poor. They cried and/or laughed, each reaction appearing to be out of proportion to, or without cause.

Our personnel was added to with the services of a nurses aide from the Department of Health, who proved to be a vital addition to the staff. She helped escort the children from the buses to the classroom (a 10 minute walk, plus elevator ride, managable with only 2 children per adult at a time). She assisted with toy and cot placement and storage, setting up and replacing quiet games, music and activity equipment, cleaning snack and lunch utensils, dressing and undressing the children, and keeping the room clean and uncluttered. The aide was also vitally concerned and played an important role in the toilet training aspects of our program, with the aim of getting the children used to a regular schedule of elimination, familiar with related equipment, and secure with consistency of approach.

Feeding procedures included physically exhausting and emotionally trying attempts to teach the children to learn how to eat. The breaking of the bottle-feeding habit proved to be a complicated, involved and time-consuming job. Parent participation became necessary, as new approaches, to be used at home were explained. We found this method not completely satisfactory, however, wondering how often our example was followed. The fact that the child had only 3 meals with us each week, further prevented repetitive, meaningful and frequent follow-through.

As the children in the individual program progressed, some were gradually assimilated into the group. By June, 1968, approximately 4 more children had been added on a full 3 day a week nursery program and the rest remained in the individual program on Tuesday and Thursday.

It is important to note here that some of the agencies and schools in the New York community traditionally concerned with handicapped children did attempt to meet the needs of this unusual caseload. Such facilities as the Industrial Home for the Blind, St. Joseph's

School for the Deaf, and United Cerebral Palsy attempted to expand the number of children they could accept and also the scope of their services. It was also to be understood that children enrolled in our program would be referred to other facilities whenever they became eligible for such service. Referral would be made only to educational centers ready and willing to provide the necessary services to meet the needs of our children.

By working through these various stages, and after several months we were able to achieve some degree of interdependency among a few of the children - but only a few. Thus, 4 children were able to leave the project in August, 1968, at the conclusion of a six weeks summer program.

Two were accepted by schools for the deaf (Lexington and St. Francis deSales); one by the N. Y. Institute for the Education of the Blind; and another by a school for the emotionally disturbed. We were delighted with their acceptance by these special schools. With these children, we had achieved our goal.

Because of the vacancies that occurred due to this change in 'register', reorganization of the group was necessary. Its composition greatly changed with the assimilation of additional 'individual' children.

Aware that the local schools for the deaf had not been able to accept other children known to the Birth Defect Project, we began a 2 day a week nursery program for 10 'intact' children on waiting lists at these schools, who otherwise would not be receiving training during this interim period. We felt it our duty and responsibility to provide some service, even on a curtailed basis, for these children who were suffering because of lack of space. Even with this added intake, and from available figures it is estimated that perhaps we have reached (educationally) only 250 of a possible 1,000 Rubella children, whose education requires the services of teachers of the deaf.

Due to the New York City teachers' strike in the fall of 1968, neither program, the (M-W-F) multi-handicapped group, nor the (T-TH) more 'intact' children, really got underway until late November, 1968.

Upon entering the second half of this school year, it became obvious that the evolved (M-W-F) group now existant did not match the functioning level of the nursery group of last year. We found vast differences in behavior, prognosis and potential.

They all showed the co-existence and overlapping of features of: (1) autism, (2) retardation, (3) neurological damage, as well as (4) communication handicaps, and with several others, (5) vision impairment.

Yet, referring to numbers 1, 2, and 3 above, merely placing these children in clinical categories neither described the problem, nor helped us prescribe specific treatments.

For this kind of direction, and to make it educationally effective, we had to have the help of psychiatrists, neurologists, and audiologists.

What we now knew was that each child needed his own personal educational prescription based on a psycho-educational assessment of unique behavioral patterns and functioning levels. A teacher must go beyond medical work-ups and must be constructive about identifying, analyzing and describing specific skills and strengths, disabilities and deficits, limitations in learning process areas, including sensory and perceptual intactness, spatial relationships, body image and auditory and visual discrimination.

A psycho-educational approach has value, if an attempt is made to include and combine the clinical skills and evaluations of the psychiatrist, psychologist, audiologist, physical therapist and social worker, with those of the teacher. Although the discipline of special education plays the primary role in an educational experiment of this type, the success of the program must also depend on cooperative assessments, so as to determine the direction the program will take. Evaluations, experiences and findings must be combined, then transferred into a functional and meaningful daily program for the teacher. In this way will she be able to carry out the specific remedial and educational techniques that are required. And then finally, - regardless of the label it's given - education, remediation, therapy, habilitation, children who many feel can derive little benefit from any type of program will be helped to gain mastery of self and life situations.

COMMUNITY EFFORT: NEW YORK'S PROGRAMS FOR DEAF-BLIND

Mrs. Edith Patt, Supervisor
Children's Services
Industrial Home for the Blind

Because I represent a social agency rather than an educational facility, I think my emphasis may be a little different. Although we actually become involved in education it is essentially something which develops out of our casework contact with the family. The family becomes known to us firstly for counseling related to the social problems precipitated by having a handicapped child. The kind of service required varies from one situation to another and programming develops for each out of their individual needs as we see them.

It is our feeling that the earlier in a child's life that he and his parents can receive the kind of support an agency has to offer, the easier it will be for the entire family. There will be less undoing when formal education is introduced. The amount of pain and frustration for both parents and child during the early formative years can be substantially reduced.

In New York an agency for the blind finds itself in a unique position and it probably serves a wider variety of multiple-handicapped children than most other agencies dealing with children. This happens because as soon as it is discovered that a child is blind---no matter whatever else may be handicapping him---he may become ineligible for service elsewhere. The physical fact of blindness may actually be a secondary handicap. The highly specialized materials and techniques which have been developed to teach the deaf, retarded or brain injured are frequently too visual for the child with impaired sight. Because of this blind children frequently do not fit into these programs comfortably or perform in accordance with their potential. As a result, it has become necessary for agencies such as the Industrial Home for the Blind to learn more about the other handicaps, and to help plan for the total child.

In describing how our agency's service developed for the young deaf-blind child and his family, I believe much can be extracted from this experience to serve as a basis for working with future situations whether they come to us singly or in large numbers. Whether the cause be rubella or anything else there are some principles which we feel are basic to helping the child towards the education with which we here are all concerned. In our experience over the years of working with Retrolental Fibroplasia children we have learned that one cannot talk of education only as it implies schooling, or as it indicates a child's entrance into school. Education is something which begins from the time a child is born and there is emotional and social education long before formal academic learning is introduced. We as an agency are concerned with primary education, and by "primary", I mean that which takes place first.....in the earliest relationship between parent and child, and that is where our focus has been. A climate must be created in which a child can learn firstly, a sense of self then a sense of himself in relation to his family, and then extending further out to the world around him. Future successful education is based on these beginnings.

The measure of any agency or institution's service to a community will depend on its ability to provide programs for people rather than people for programs. We were fortunate in New York to have the New York University Rubella evaluation project which was seeking programs for people. Although all of the children with whom we have been working are not known to New York University the large bulk of them are. These are the more fortunate ones because of the help their families had in reaching out into the community to find appropriate facilities to serve them and their children. At the point when medical exploration and immediate treatment gave way to follow-up Dr. Cooper and his team began making referrals for on-going service, of a non-medical nature. The receiving agencies were also fortunate because with the referrals came medical and social histories, evaluations of strengths and weaknesses in the families and a deep concern for the children's future. The establishment of open communication between a hospital and a social agency produced an atmosphere where an exchange of information, a sharing of responsibility and a clearing house for ideas was able to provide a maximum of service with a minimum of duplication. The feeling that "their hospital" and "their agency" are working together gives parents the kind of support that unfortunately they do not always have. No one discipline has the monopoly on know-how with the multiple-handicapped child, and unfortunately what sometimes happens in a large city like New York is that clients frequently are lost between services. They also have a feeling that what happens to them in one facility is unrelated to what happens to them in another. This leads to a kind of fragmentation which in the long run inhibits working out a total and effective plan for the child.

We frequently see examples of lost children. Sometimes we see a single rubella child who is deaf and blind and neurologically impaired, and whose parents arrive at our doors in desparation when he is six or seven. They have finally come because they have learned of our service through publicity given the children of the epidemic or through a chance meeting with someone who has mentioned it. Often it is too late to make up for the early years of severe sensory deprivation and stimulation and education is not possible. The parents by this time are usually so drained by having had to manage monumental difficulties alone that institutionalization is the only answer, and often the marriage has suffered irreparable damage.

One of the main reasons we have been able to work so well with families in this crisis is because they were caught up in a forward rushing stream rather than a cross current. Agency and hospital service go on simultaneously and cooperatively. Keeping the lines of communication open not only makes things easier for both staffs but offers a more complete service to clients.

All referrals to Industrial Home for the Blind had in common just one thing and that was congenital visual defect (generally cataracts which had already had as much corrective surgery as could be done) and as we mentioned earlier, no matter what else is wrong with a child, if he is blind or legally blind he becomes the concern of the agency for the blind. In addition, the rubella children had the varying degrees of deafness, congenital heart defect, neurological impairment and psychomotor retardation mentioned here many times. Some had all, or a little of each, some had one or two in combination, and varying levels of development which had been achieved. Really, no two were exactly alike and the many combinations and permutations of the different handicaps necessitated individualized planning to a degree which could not truly have been anticipated. From the time of the first home visit, we as an agency, realized that no matter how well prepared we were to plan for the multiple handicapped blind child a clear-cut program could not be established in advance.

As in the past, and it will be so in the future, educational and social service programs will have to develop and expand as we become aware of the ever changing needs in the community. It will depend too on the readiness of parents to work with us on a trial and error basis in the knowledge that together we may find some of the answers to their questions. Families have expressed their need to know that they are not alone in this world to face the difficulties which living with these children present. They must experience this in an emotional way through professional advice and concern which carries with it respect, and never judgment of them as people. Generally the first questions in the minds of parents were and still are, will my child ever go to school; will he have to go away; will he ever be independent? Really, nobody knows to what degree many of these children will be educated or become self sufficient, but our goals have been for each to have a maximum opportunity to develop whatever is his potential. Even if the ultimate plan is long-time custodial care he will arrive at it making use of as much of himself as is possible.

I would like to discuss the pre-"pre-school" education and the team work and high level of parent and agency participation that has brought the children born in 1964 to the present low level of functioning which separates them from a regular school program for the deaf, or blind child, the brain injured or the retarded.

As a beginning step, based on previous agency experience, it was decided to assign all rubella families to one worker. The reasoning behind this was that a single worker viewing all children could more easily pull out similarities, common needs and share her growing knowledge with parents. One worker going into ten homes is more comfortable with presenting problems than ten workers going into different homes and meeting each situation as unique or totally new. A relationship and a feeling of working together for a common goal had to be established between parent and caseworker. Much is written in social work literature about "being where the client is" and the casework relationship being a therapeutic tool. Actually the relationship turns out to be the most meaningful tool we have in beginning to help a family. Almost all were eager for the first home visit. And almost all expected, or hoped, that an agency would have the answers, the know how, the skill to direct the management of their child as they themselves were not able or feeling capable of doing. I have mentioned home visiting several times, but I want to stress it particularly because this is really where the client is. Parents receive help in hospitals, clinics and other facilities, but at home away from the experts they face the real task of daily living. It has been our experience that only when a worker meets the client on his own ground and is allowed to view or share in some of the more frustrating moments that a truly meaningful relationship can be established. Later on it can shift to an office interview or phone call, but in the beginning we feel it should be at home where the problems have their most painful impact.

For many, this was the first experience in working with a social agency. We could sense a feeling of initial disappointment in parents who expected that as experts on blind children, we would somehow arrive like Santa Claus with a bagful of presents, not in the material sense, but rather in suggestions, tricks or a set of rules on how they could do it themselves. The first visits were exploratory and social history flowed easily with most parents voicing their major fear of being left alone to cope with their problems. Now that there were fewer appointments related to strictly physical and medical problems there was a feeling of letdown. Before they had been concerned with the question of would their child live, and now it was would their child learn. Their days had less direction and they wondered what they could do now and what we as an agency would offer them in the way of a concrete program. When someone is asking for a plan of action, discussion seems like a poor substitute, and it was necessary to face this with almost every parent.

In our program the caseworker is the first educational counselor and in the beginning her role had two distinct but related aspects. It became apparent within a relatively short time that although this relationship was meaningful and had been helpful in ventilation of feeling, working through some of the family problems arising out of having a severely handicapped child and starting the mother on the road to teaching her child---it was not enough. In addition to counseling related to the total family interaction, more intensive help was needed. It was not enough for a mother to take her child out of the crib and want to stimulate him. She needed to learn how to help him to walk, eat, and play, and wanted to know how she could do it when he did not hear her, see her and, in some cases, want her to handle him. She wanted demonstration and physical support, someone who would involve her in a show and tell situation. It was necessary to expand the helping team and the introduction of a teacher into the home was the beginning of more structured education. The educational team became mother, teacher and caseworker and I mention the mother first for regardless of how many helping people are involved at various times with the child, there is one member of the team who remains constant--the child's mother. Her importance cannot be minimized and her need for support and reassurance must be recognized. A mother who feels herself deprived and without self-respect cannot give to her child a feeling that he is a whole person.

The teaching program in the home began in 1966 and continued as needed with new situations, and as Anne Sullivan Macy became a name associated with Helen Keller, so Enid Kelly came to be known in the household of every deaf-blind child in Brooklyn. Mrs. Kelly came for several hours once or twice a week teaching both child and parent, and the caseworker supported the work of both. Constant reassurance and re-emphasizing aims and goals were necessary especially when mothers became discouraged and disheartened. Every effort was made to keep hope alive, but clearly it was to be hope for realistic small gains and not expectations which would add to the already overwhelming frustrations. Parents continued to ask about the future, and it was always necessary that day-to-day progress be the focus, with lowering the sights indicated for some and raising of expectation indicated for others.

Time does not allow for very extensive descriptions of actual teaching techniques, but I think it is important to stress just a few things. Although the children were past two years of age, the early educational goals were simple and geared to readying the child for whatever were the next steps usually taken naturally by the normal child in the ordinary stages of development. They were primarily related to moving out of infancy into a delayed toddler stage and into early childhood.

Generally the children fell into two types of behavior patterns, neither of which could be allowed to continue indefinitely, either for the child's sake or the sake of the entire family. They appeared to be either in a state of what looked like infantile autism or presented a picture of whirling dervish activity, which was mostly destructive. The first group seemed oblivious to their surroundings, and ordinary exposure to stimulation aroused barely a fleeting ray of interest. They were unresponsive to play or toys, and even physical contact seemed to revolt them. Indeed they seemed unmotivated to live. Even the best parents become discouraged if they fail to receive any satisfying results from their efforts to reach a child. They need a spark of response to enable them to go on trying.

The second group had the entire family in turmoil. Because of the anxiety of parents to see growth and advancement, the child's energies were frequently allowed to run in all directions. Fear of frustrating the child or inhibiting what looked like development, led to a state of exhaustion for everyone, but the child. It was not uncommon to find grandparents and neighbors, as well, intimidated by the child's behavior, controlling themselves for fear of interfering with progress or "breaking a child's spirit". Parents who had made no demands of any sort on their children needed much support and reassurance while they learned that discipline is necessary if the child is to learn. The rules of living must be clearly defined for the multiple handicapped child so that he is not additionally burdened with confusion.

The original group were served at home for over a year and a half, and progress was based on the establishment of simple communication between the child and teacher, which was transferred to child and mother. Teaching at this very elementary level must, of necessity, be highly physical. Most parents have considerable difficulty in learning how to use their bodies freely in relating to a child. They may be uncomfortable or self-conscious with the degree of physical contact required to teach even simple things. It doesn't come naturally to most parents to help a child use his hands to get to know the world around him. "Don't touch" comes to most of us with greater ease than "Here, touch it".

It was first necessary for Mrs. Kelly to demonstrate that communication could be established. Frequently the initial step was to overcome the hurdle of the child's allowing physical contact, even affection, so that she could begin to teach him. The withdrawn child rejected handling by crying and screaming and the hyperactive one pushed it away with vigor. It required persistent effort on the part of both teacher and parent to help many of the children derive pleasure from a simple hug or an approving pat. The normal baby learns to appreciate the soothing gentle sounds his mother makes when she is pleased with him and cuddling him. The deaf-blind infant feels this assurance of love through caressing and handling rather than through her voice. He learns slowly what is pleasurable and what brings a hug or positive response. But equally important and harder for parents to accept is the fact that he also learns through handling the meaning of a cross word or reprimand. This can only be conveyed by a firm hand and sometimes administering a slap to register disapproval. It is necessary that parents give clear signals of what is expected of the child as well as what is acceptable to them. A child must sense the difference and the meaning of "no" must be clearly established. Once there is awareness of the parents' wishes, there can be a relaxing of the firm hand and substitution of a symbolic touch, but that is after communication is established. In the beginning the child has to really feel the difference. A half-hearted slap or a lukewarm pat may be confusing if the child cannot hear the word or behold the expression that goes with it. The message to the child must be unmistakable if he is to understand the effect his behavior has on others, and to learn that one form of behavior is acceptable and another is not.

In working with parents we found that once they learned to use their bodies they concentrated so hard on handling that they did not always use speech at the same time. It was necessary to emphasize frequently that both are important in their working with the child, so that stimulation could be increased and that one was not meant to substitute for the other.

The whole area of "discipline" in the sense of early training is difficult and painful for the average parent. One hears a young woman referred to occasionally as a "natural born" mother but one never hears of a "natural born mother of a handicapped child". In learning to be a mother and teacher of her child who is so different she needs not only to be shown what to do, but helped to do it and to live comfortably with what she is doing. Parents who have been brought up in an age where there has been much talk about permissiveness in education do not easily accept the need for force in teaching. Why, for example, should a child who is enjoying himself all day playing with the light beams by the window be deprived of the one activity that seemingly gives him pleasure? How can a parent who sees the child as happily playing realize that he needs to be taught that something else might be equally or more enjoyable? Why should she involve herself in a struggle to withdraw the child's attention from the present activity or lack of it, only to find herself in a second battle to refocus his attention on something which he does not want to do? Does it really matter if she allows him to climb on the kitchen table now while she gets a few minutes of peace on the telephone? And, finally, after a particularly harrowing day when she didn't do a single thing the teacher had asked her to do, the guilt sets in.

Teaching at home is a difficult situation, for no matter how much the mother wants the teacher it is not easy to watch someone else do what she feels is her job. Even while the teacher is there the mother is worried about whether she will be able to carry through suggestions after the teacher leaves. There must be open recognition with the mother of her feelings and the agency's knowledge that inherent in the demonstration technique is the inference that the parent is inadequate. Because of the problems surrounding the handicapped child and the recognition that it is not only the education of the child that is involved, we here at the Industrial Home for the Blind see the teacher, social worker and the mother as a team in the truest sense of the word. One mother put it this way, "Mrs. Kelly comes for my child, but the social worker comes for me". Actually, both work with the mother in different ways. There is an openness in communication and sharing of information among all three. The mother needs the caseworker just as she needs the teacher, for it is with the caseworker that she can share her moments of despair on the days when she cannot see herself able to live up to what she thinks should be done. She must get, during this difficult period, warmth and recognition of her efforts. Her pride in achieving a goal is shared with both teacher and caseworker. But during the moments when she sees herself as a poor pupil, she needs the support, reinforcement and acceptance of herself as a person that the casework relationship offers. Those things which come naturally to the normal child, such as walking alone, chewing solid food, finding a toy, asking for a drink of water need to be taught for they cannot be imitated by the deaf-blind child. The mother must be taught how to do for her child, and with her child, and how much is too much or too little. Her job is enormous and she cannot do it alone. She too needs tender reassurance and the recognition that she has a right to a life as a wife and a person apart from her child. This is why we feel that the earlier in the child's life he and his parents can receive the kind of help an agency has to offer, the easier it will be for the entire family. There will be less undoing when formal education is introduced and the amount of frustration and pain for both parents and child can be substantially reduced.

The non English speaking mother finds herself even more alone, both with her child and with the community facilities which are available, but with which she may not feel comfortable. Teaching at home becomes more difficult and almost impossible when there is a language barrier and neither the social worker or the teacher can communicate freely with the mother.

At least half of our client group are Spanish speaking and have different cultural patterns and expectations in bringing up their children---especially handicapped ones. In these families nothing is expected of the child and limits are almost never set nor is stimulation provided. Explorations of simple goals such as feeding of solid food, walking alone, removal of the pacifier were frequently misinterpreted. We realized within a short time that we would lose these children and their families. Ultimately they would end up in institutions not because the children were unreachable, but because we could not reach their families on the same intimate level we could reach those who spoke English.

It took a while but we were able to find a young woman with warmth and understanding who was a member of the Puerto Rican community. First she went into the homes with the social worker as an interpreter. Then, later on, she was an aide with Mrs. Kelly and, finally, she went in alone to work directly with the child. She became part of the extended team. The next step was the addition to our staff of a bilingual social worker. I think that because of these additional services based on the client's needs we are having equal success in reaching both the English speaking and non English speaking families.

With the readiness of the children to move out of the home still on a one-to-one basis we began in 1968 to bring the children to our office where a playroom was set up. Here Mrs. Kelly supplemented the work she was doing at home and later on a Spanish speaking teacher was introduced into this program. Her background was physical education with young children and much emphasis was placed on increasing motor skills. The children were being readied for the programs which Mr. Walker and Miss Malone will describe, or to continue on with us in a group situation.

In March, 1969, a new program opened for the rubella child in Brooklyn. This educational program is sponsored jointly by the Board of Education and the Industrial Home for the Blind and is federally funded. It is an annex of a public school and the staff is licensed by the Board of Education. The agency provides the housing and supportive services and the educational program is under the auspices of the Bureau of the Visually Handicapped. The future looks much brighter for these children than it did in 1964 and the reason for this, we believe, is because it has been a cooperative effort based on good communication among those involved.

PUBLIC SCHOOL SERVICES
FOR
THE PRE-SCHOOL RUBELLA DEAF-BLIND
IN TACOMA, WASHINGTON

Mrs. Janet M. Kauffman, Teacher
Visually Handicapped and Deaf-Blind

Tacoma, Washington, a city of 150,000 located 30 miles south of Seattle, has had a public school program for the pre-school rubella deaf-blind since November, 1968. Enrollment has grown from an initial three children to five youngsters receiving regular service as of May, 1969.

Two types of program were attempted, sequentially, during the school year: home visitation and central location, with the mothers present and involved with the children in both instances. For various reasons these approaches have not been as successful as had been hoped. Four "general principles", relevant to the Tacoma situation, have been derived from that experience.

1. It is felt by the staff that centralization of the program is most advantageous for the parent and child. Parents should attend pre-school sessions only upon invitation by the staff and parental attendance should be determined on an individualized basis.

2. At this point with these particular children it would seem that staff working directly with the children should consist of:

    (a) a teacher-coordinator
    (b) consultants in speech and hearing, occupational therapy, and physical therapy
    (c) volunteers: one for each child, assigned to a specific child

3. The parents in this program display a wide variation of responses to their children. While this is to be expected, it has been determined by the Tacoma staff that the teacher-coordinator cannot, and should not, attempt to deal with these reactions. For that reason, parent counseling, conducted by staff trained in that area, has been made an integral part of the summer program.

4. Successful attempts have been made to coordinate Tacoma Public School efforts with those of Seattle Community Services for the Blind and Mary Bridge Hospital's Speech and Hearing Clinic in Tacoma. It has been found that coordinated efforts enhance staff competency and the childrens' development in this case. Cooperation with medical personnel has been and will continue to be an integral part of the program.

A six week summer pre-school has been planned for children in the Seattle-Tacoma vicinity, with the four ideas above serving as the basis for the program. It will be funded through Title VI.

In April a letter was sent to parents of children then currently enrolled in the public school program for the rubella deaf-blind. It outlined dates, consultant services and specified four requirements for enrollment in a summer pre-school. (1) Participation in parent discussion sessions with a psychologist and counselor, (2) an examination by the staff at the University of Washington Birth Defects Clinic as a uniform diagnostic and referral center, (3) parental cooperation in the obtaining of glasses, if prescribed, and (4) parental cooperation with agencies and groups (in Tacoma most probably staff at Mary Bridge Hospital Clinic) involved with hearing testing, aid acquisition-if deemed necessary-, and language training. The letter constituted the department's agreement to provide as adequate a service as possible;

enclosed was a form to be signed by the parents, indicating their willingness to cooperate. Great parental enthusiasm was shown for this type of "contract", and all forms were returned within several days.

At this point (June, 1969), seven children are involved in the summer pre-school: six from Pierce County (Tacoma) and one from Seattle. The Seattle child has been receiving services from Seattle Community Services for the Blind. It is possible that the pre-school may serve another child from Tacoma, bringing the total to eight.

Efforts have been made to acquire the services of consultants in the areas mentioned previously; however, it has not been possible to secure a physical therapist, and response of potential volunteers has not been as gratifying as was hoped. Staff will consist of personnel from the areas of (1) psychology, counseling and social work, (2) occupational therapy, (3) education of the deaf, speech and hearing, and (4) a teacher-coordinator. Some staff from Seattle Community Services for the Blind will be working in the program. At the time of this writing, six potential volunteers have been contacted.

The pre-school will meet three half-days a week: one day for swimming and water play, and two days for individualized developmental activities. Possible areas for intensive work, depending on the child, are ambulation, communication, self-awareness and self-help, social awareness, manipulation and feeding.

A developmental check list, derived from one formerly used in the program at San Francisco State, has been developed by the staff for use in the summer program. It has been developed for this specific situation for these children and is simply to provide those involved with an idea of the developmental level of each child. Objectives for the end of the six weeks for each child have been taken from this checklist. A copy of the list may be obtained by writing Mrs. K. G. Kauffman, Department of the Visually Handicapped, Tacoma Public Schools, Tacoma, Washington 98401.

Video taping of portions of the pre-school is planned.

Parents will be directly involved in four evening sessions of parent counseling, to be held in their homes on a rotation basis. They will also attend the pre-school, at the discretion of the staff.

A report will be sent to the State Superintendent of Public Instruction, Olympia, Washington at the end of the six weeks. It is planned that the program will continue throughout the next school year, using information gained during the summer.

In summary, Tacoma has planned a summer public school pre-school for the rubella deaf-blind based on four rather general suppositions: the advantage of (1) a central location with parental observation at staff discretion, (2) consultants and volunteers to provide one-to-one developmental work, (3) parent counseling and guidance handled by professional staff, trained in that area, and (4) coordination between various programs, and between medical doctors and those programs. "Contract" agreements between parents and staff has also been beneficial in this instance.

Further information may be obtained by directing requests to Mrs. Kauffman at the address given previously.

TWO YEARS OF AN INTERDISCIPLINARY DIAGNOSTIC AND THERAPEUTIC NURSERY PROGRAM FOR MULTIPLY HANDICAPPED PRE-SCHOOL CHILDREN

Gloria Grimes Cochran, M.D.	Associate Director, Child Development Clinic, Texas Children's Hospital, Assistant Professor, Department of Pediatrics, Baylor College of Medicine
Winston E. Cochran, M.D.	Director, Child Development Clinic, Texas Children's Hospital, Assistant Professor, Department of Pediatrics, Baylor College of Medicine
Jorenda Reynolds Stone, M.A.	Speech Pathologist and Language Development Therapist, Child Development Clinic, Texas Children's Hospital, Instructor, Department of Pediatrics, Baylor College of Medicine
Delma Rose Fortin, M.S.	Child Developmentalist, Child Development Clinic, Texas Children's Hospital
Dorothy M. Iddings, R.P.T.	Physical Therapist, Child Development Clinic, Texas Children's Hospital, Instructor, Department of Pediatrics, Baylor College of Medicine
Carole Gard, O.T.R.	Occupational Therapist, Child Development Clinic, Texas Children's Hospital, Instructor, Department of Pediatrics, Baylor College of Medicine
Frances Kelley, M.S.W.	Chief of Social Service, Child Development Clinic, Texas Children's Hospital, Assistant Professor, Department of Pediatrics, Baylor College of Medicine
Jane Zander, Ph.D.	Chief of Psychological Services, Child Development Clinic, Texas Children's Hospital, Instructor, Department of Pediatrics, Baylor College of Medicine

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CONSULTANTS DURING THE 1967-68 YEAR

Tina Bangs, Ph.D., Houston Speech and Hearing Center

Carlos Vallbona, M.D., Texas Institute of Rehabilitation and Research

Mary Ann South, M.D., Rubella Follow-Up Clinic, Texas Children's Hospital

John R. Montgomery, M.D., Rubella Follow-Up Clinic, Texas Children's Hospital

THERAPISTS DURING THE 1967-68 YEAR

Miss Gladys Becerra, Physical Therapist, Texas Institute of Rehabilitation and Research

Mrs. Judy Fenlason, Occupational Therapist, Texas Institute of Rehabilitation and Research

Mrs. Pamela Tett, Language Therapist, Houston Speech and Hearing Center

Mrs. Frances Pendergraft, Social Worker, Texas Institute of Rehabilitation and Research

DEVELOPMENTAL TESTING

Gesell testing was performed by Dr. Willie Verniaud

Denver Developmental testing was performed by Miss Erma Jean Ault, R.N., M.A., Public Health Nursing Staff of Child Development Clinic

The following physicians of the faculty of Baylor College of Medicine have participated in the study:

Dr. W. Malcolm Granberry, Department of Orthopedic Surgery
Dr. Milton Boniuk, Department of Ophthalmology
Dr. Juan Dickey, Department of Otolaryngology

Members of the Baylor Rubella Study Group as listed in the contributors to Rubella: Epidemic in Retrospect Hospital Practice 2:(3), March 1967

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INTRODUCTION

The large numbers of multiply handicapped children in the United States resulting from the rubella epidemic of the early 1960's has directed new focus toward the need for an organized interdisciplinary approach to the habilitation of such children. Twenty-five multiply handicapped Congenital Rubella Syndrome children in Houston, Texas for whom no therapeutic program was available provided the impetus which lead to the establishment of the interdisciplinary Diagnostic-Therapeutic Nursery Program of the Child Development Clinic of Texas Children's Hospital. The first eight months of the program was conducted at the Texas Institute for Rehabilitation and Research in conjunction with consultants and therapeutic personnel from that agency as well as from the Houston Speech and Hearing Center. In September, 1968, the program was moved to the expanded facilities of the Child Development Clinic and was continued by core clinic staff in Language Development, Occupational Therapy, Physical Therapy and Child Development. The initial medical, functional, social service, and psychological evaluations were performed by the Clinic professional staff. Placement in the Diagnostic-Therapeutic Nursery Program was based on joint recommendations made at a staffing conference. The centralized location has permitted more effective interdisciplinary action. The addition of the Child Developmentalist as the Nursery Class "teacher" has served to emphasize the fact that the multiply handicapped child may have potential for normal development that might otherwise be unrecognized by the parents or by other professional staff.

BACKGROUND

The clinical and laboratory findings in the Congenital Rubella Syndrome are being presented by other participants in this symposium and detailed reports are now available on all its aspects in the increasing quantity of medical, paramedical and lay literature. Medical aspects of this paper will therefore be limited to the role that the physician should assume in the diagnosis, definition, interpretation and follow-up of the child with Congenital Rubella or any other multiply handicapping condition.

The number of infants identified in the neonatal period with the "Expanded Congenital Rubella Syndrome" (1) reached epidemic proportions in Houston, Texas in late 1964. Desmond et al. in a paper entitled "Congenital Rubella Encephalitis" has reported the results of the first eighteen months of an intensive diagnostic, therapeutic, and projected long-range evaluative program for 100 to 150 of these infants (2). During the second to third year of the Rubella Follow-up Program, an analysis of the then existing caseload of 146 patients revealed as demonstrated in Table 1 that: 70 were primarily hearing impaired; 39 were primarily visually impaired; 20 were both hearing and visually impaired; of the total caseload, 50 had significant motor handicaps or lag in motor developmental skills; 17 were "normal".

The extent of intra-disciplinary involvement of medical personnel and interdisciplinary participation by paramedical and community professionals was emphasized in a special report from the Baylor Rubella Study Group (1). The problems of the parents in terms of time, effort and money expended in obtaining these diagnostic and therapeutic programs for their children had to be met in the light of their own family needs and the facilities available in the community. This often meant long hours away from home and travel to widely separated facilities with an unhappy, irritable, multiply impaired child.

After the immediate, essential medical treatment had been carried out, the problem became one of long-range management. In conjunction with the medical staff of the Rubella Follow-up Clinic, all children at approximately 2½ years of age were re-evaluated in special sessions at the Child Development Clinic. Of the 80 patients thus appraised (Table 2): 45 were recommended for a language development program which could be provided at the Houston Speech and Hearing Center; three were primarily blind and were recommended for the nursery school program at the Lighthouse for the Blind; 7 had no significant motor, visual or auditory impairment and were functioning at or near age level--for these home management or a normal nursery school program was recommended; 25 were considered multiply handicapped and did not meet the criteria for enrollment in any existing therapeutic program. This group was arbitrarily divided into 6 mild, 7 moderate and 12 severe. This classification reflected primarily the amount of demonstrable language delay and the extent to which neurosensory hearing loss, visual impairment and motor disabilities were predicted to be correctable by prostheses or therapeutic programs.

PROGRAM DEVELOPMENT -- FIRST YEAR

Of the 25 patients originally identified as multiply handicapped, six were unable to participate in a daily program due to distance and/or lack of transportation. Nineteen children were enrolled in the Nursery program in October, 1967 to participate in a group language development class and individual occupational and physical therapy for a maximum total time of two hours daily. For optimal utilization of personnel and facilities, the Language Therapist was responsible for the only part of the program conducted for a group. Six children were considered to be mild and 13 ranged from moderate to severe in degree of disability. Initially, three or more children were grouped together according to their ability to learn language; later adjustment of class placement was made according to rate of learning. Any individual child would be shifted to a higher or lower level as his rate of learning changed. Second consideration was given to the actual language level and third to the sensory and/or motor impairment. The resultant functional disabilities of the children in these groups were primarily hearing loss, poor vision and language delay, but not all children were affected to the same degree. A short attention span and lack of environmental awareness were present in all children to some extent.

A variety of stimuli were used to teach the child how to explore and manipulate an object. Consistent short phrases spoken by the teacher always accompanied the action. If the child failed to comprehend the phrase, the teacher manipulated him through the action while repeating the phrase. The consistency of a given phrase to describe a certain object or to request a given performance was carried over into the programs of occupational and physical therapy so that there was reenforcement of the language development program by the other therapies. As the child gained skill, the teacher said the phrase, the child carried out the action, and the teacher repeated the phrase in the past tense. Generalization of concepts was encouraged through varied activities as the child learned to comprehend language. Children originally classified as mild multiply handicapped were the only ones who reached a level of generalization of concepts. As these children approached age level in other psychomotor areas, they were moved from the Nursery to a more advanced language development class and occupational and physical therapy were discontinued or were carried out on an unrelated schedule.

Detailed description of the neuromuscular involvement of the first 100 children in the Baylor Rubella Study is outlined by Desmond et al. (2). Appropriate medical treatment and therapeutic programs were initiated as soon as possible as a part of the total comprehensive care of the patient. Hypotonia, muscle weakness, and abnormal positions with bizarre movements were noted. In the early clinical course, the orderly development of motor skills did not take place in many instances particularly in the areas of creeping and crawling. Many children originally presenting hypotonia and apparent muscle weakness, by the time of the 2½ year examination had no major structural problems; however, those that had developed the pattern of the more classical cerebral palsied child had gone from a period of hypotonia to transitional or hypertonic cerebral palsy. Major components of the physical therapy program for the original Nursery group between the ages of 2½ to 3½ years included exercises to stimulate motor development, strengthening exercises, passive range of motion and gait training. For the more severely involved, the therapists performed and instructed the parents in the techniques of strengthening weak muscles, stretching spastic muscles and positioning by use of a standing bed. Emphasis was placed on carrying these programs over into the home. Failure to walk independently was a presenting problem in 17 of the original 27 patients. At the beginning of the program in October, 1967, 10 children were walking independently. During this first year of therapy, 7 more children began walking. In the second year of the program, there remained 6 children who have not begun to walk; two others can only walk assisted. Two children began to walk independently during the second year of the program.

The extent of Fine Motor and Adaptive delay in each child was determined by Gesell Developmental Testing. The Occupational Therapist devised individual programs for the development of age-appropriate self-help skills.

During the first year a total of eight additional children were enrolled as places became available by advancement of any child to another program. At the end of the program year, of the 27 participants, one child was eligible for public school pre-school deaf program, eight did not meet the requirements for public school enrollment and were referred to private single discipline programs for language, occupational therapy and physical therapy. One child was placed in the Lighthouse for the Blind; one at the state school for the mentally retarded and 16 were re-evaluated in the fall of 1968 and were continued in the Diagnostic-Therapeutic Nursery at the Child Development Clinic.

SECOND YEAR

The acquisition of additional facilities for the Child Development Clinic in May, 1968 and the development of a full time therapeutic staff permitted consolidation of the activities of the Clinic into a single unit. Thirty-five children with varying etiologies but similar functional disabilities have received a continuing diagnostic and therapeutic program during the 1968-69 year. Following initial evaluations, placement and scheduling have been carried out through interdisciplinary staffings. The Child Developmentalist conducts the daily nursery class program for periods of time varying between ½ and 1 hour depending upon the given group of children. The Language Therapist, Physical Therapist and Occupational Therapist conduct individual or group sessions of therapy. Each works alone or together with another therapist or the Child Developmentalist to devise and carry out appropriate activities for each child.

The present caseload can be described in terms of etiology, functional impairments, age level and associated characteristics which determine appropriate group placement (Tables 3 and 4). The total caseload of the Nursery has been 35 patients of whom, 28 have Congenital Rubella Syndrome and 7 are non-rubellas. Twenty-five of the 28 rubellas are 4 years of age; the remaining 3 are 2-3 years of age. Three of the 7 non-rubellas are 2-3 years of age; the others are 4 years of age. This total caseload can be divided into four categories: MOST SEVERE, SEVERE, MODERATE and MILD.

In the category MOST SEVERE, there is a total of 9 children of whom one is 2-3 years old and is not a rubella child; one is a 2-3 year old rubella; three are 4 year old non-rubellas. The remaining 9 children are 4 year old rubellas.

In the category SEVERE, there are 14 children of whom 9 are 4 year old rubellas; 3 are 4 year old non-rubellas; 1 is 2-3 years old and is rubella; 1 is a 2-3 year old non-rubella.

In the category MODERATE, two children are 2-3 years old non-rubellas; the remaining 6 children are 4 year old rubellas.

In the category MILD, one child is a 2-3 year old rubella; the remaining 3 children are 4 year old rubellas.

The 7 children who are non-rubellas have the following etiologies: Post Natal: (a) 1 post natal CNS infection; (b) 1 traumatic head injury. Prenatal and Paranatal: (a) 1 had Rh incompatibility; (b) 1 congenital toxoplasmosis; (c) the remaining three children had pre- or paranatal influence of undetermined nature.

In the category MOST SEVERE (Table 5), one four year old rubella had primarily a visual handicap; of the two children with primarily motor handicaps, one is a 4 year old rubella; the other is a 4 year old non-rubella. Three rubellas are primarily visual and hearing handicapped. Of the 3 children with primarily visual, hearing and motor handicaps, one is a 2-3 year old non-rubella; the remaining 2 children are 4 year old rubellas.

In the SEVERE category (Table 6), 5 children have primarily motor handicaps, 2 of whom are 4 year old rubellas; 3 of whom are 4 year old non-rubellas. All 4 of the visual and hearing impaired children are 4 year old rubellas. Two children had visual, hearing and motor handicaps in this category - one is a 2-3 year old rubella; the other is a 2-3 year old non-rubella. Three children had hearing and motor handicaps - all are 4 year old rubellas.

In the MODERATE group (Table 7), one had a motor handicap - a 2-3 year old non-rubella. Four had hearing and motor handicaps of whom one is a 2-3 year old non-rubella and three are 4 year old rubellas. One 4 year old rubella had visual and hearing handicaps. Two 4 year old rubellas had visual, hearing and motor handicaps.

In the MILD category (Table 8), one child was a 2-3 year old rubella; the remaining 3 are 4 year old rubellas. All 4 children in this category have a hearing handicap predominantly.

NURSERY CLASS

The presenting problems of the children in the Nursery Class are physical, functional and behavioral. Every child exhibits some degree of delay in gross motor, fine motor - adaptive, and personal-social aspects of psychomotor development. All children in the regularly scheduled program have severe language delay in both comprehension and expression. Immature or maladaptive behavior, inappropriate emotional responses and lack of environmental awareness have prevented optimal group participation. This combination of factors prevents performance on standardized age-appropriate tests of intellectual function from being comparable to that of the normal child. Thus, all of the children measure in the range of decreased intellectual function regardless of potential intellectual ability.

The objectives of the Nursery are to:

1. Develop self-concept.
2. Develop awareness of others and social skills.
3. Develop appropriate emotional responses.
4. Develop fine and gross motor coordination.
5. Develop communication skills
   a. Creative expression (art and music).
   b. Comprehension and verbal expression.
6. Stimulate interest in the environment
   a. Explore the environment.
   b. Interact with the environment.
7. Develop increased attention span.
8. Develop percept and concept formation
   a. Sensory discrimination.
   b. Color, size, shape, depth, space, texture and sound discrimination.
9. Modify maladaptive behavior.

The child Developmentalist serves as director of the Nursery class. She selects materials and equipment according to the developmental level of the children and plans the program of individual activities. Although each child has unique abilities and needs, they seem to fall into four recognizable groups. The MOST SEVERE group exhibits rather striking "autistic-like" behavior. Their attention is seldom obtained and they have many repetitive self-stimulating habits. The curriculum for the children in this group consists primarily of attention getting toys such as highly colored tops, see-through balls, rattles, battery toys that move by themselves, etc. These toys are used to stimulate and hold the child's interest in his environment, so that as coordination improves, the child can begin to show goal-directed activity toward things outside his own body. Hopefully the child will begin to see that he can manipulate his environment. For example, if he turns the hour glass over, the pebbles inside will fall.

The children in the SEVERE level do maintain an interest in their environment but have not yet learned to manipulate toys appropriately or to relate to peers. Various toys are used with this group. These include elementary puzzles, beads to string, cobbler's bench, shape sorting boxes, form boards, play dough, grade cups and rings, etc., which help the child develop:

1. Appropriate object manipulation.
2. Shape, color, size, depth, space and texture discrimination.
3. Fine motor and hand-eye coordination.
4. Cause and effect relationships as a foundation for logical thinking.

The children classified as MODERATE manipulate toys appropriately (considering vision, hearing and motor handicaps) and are progressing at a faster learning rate even though expressive language is not yet achieved. Their curriculum is built around developing social awareness, imitating actions, learning body parts, self-help skills, and creative media. The beginning of imaginary play is being stimulated by the use of dolls, teddy bears, cooking utensils and dress-up clothes.

The patients classified as MILD were admitted for a short term program for one or more therapies to supplement a nursery or language program elsewhere or until an appropriate program could be found in another community facility.

The curriculum differences described for each level are not mutually exclusive but are categorized for clarification. In actual practice, there is much overlapping of materials and activities.

The schedules consist of two 50 minute classes and four 30 minute classes serving approximately 21 children. Assignment to class is based on developmental level so that children with a longer attention span are placed in the 50 minute classes.

The Child Developmentalist conducts parent conferences to report the child's progress and assist with problems relating to management of the child in the home. By demonstrating the value of given toys, she advises parents in toy selection. Parents are asked to participate or observe in the class weekly to gain further understanding of their child's needs and abilities, and to help them with their carry over program at home. In addition, the Child Developmentalist makes visits to the home to assess the child and his environment.

LANGUAGE THERAPY

The Language Therapist serves in an advisory capacity to the other therapists and participates with them during their programs in order to emphasize language in all therapeutic activities. She works with the Child Developmentalist in selecting the short, simple basic phrases that are used in the classroom activities and participates actively in the classes bi-weekly.

The presenting problems in language development are: (1) hearing loss; (2) poor vision; (3) language delay; and (4) dysarthria. The first three factors were the primary presenting problems in the original class group of multiply handicapped rubella children. Dysarthria is more evidenced in the patients with multiple handicaps resulting from other etiologies which may cause physical involvement of the oral mechanism.

The program of management has therefore been: (1) appropriate prostheses such as hearing aids where applicable; (2) use of simple, short basic phrases with each activity; and (3) development of basic oral motor skills such as chewing, swallowing and sucking.

A program for two year old multiply handicapped children and their mothers is conducted jointly by the Occupational Therapist and the Language Therapist. Its primary purpose is to train the mothers to work with their children at home. The emphasis thus far has been on comprehension of oral language, appropriate manipulation of objects, and behavioral conditioning of blindisms. The Language Therapist works closely with the Occupational Therapist in activities which foster the development of the oral-motor functions necessary to eating which must be operative before the self-help skill of feeding can be undertaken. The Language Therapist has worked jointly with the Physical Therapist with several children whose age, tolerance, or attention span has prohibited classroom participation, but who have an immediate need for physical therapy and language stimulation. The use of the standing bed was initiated in the first year's program at the TIRR for positional stretching. The child may be placed in the classroom on the standing table to participate; however, one problem is that the child is not at the same eye level as the children sitting at the table. Where possible the standing program is carried out during physical therapy and a twenty minute "language lesson" can be conducted in directing the activities on the work tray. Then the child can be positioned in a small chair or allowed to be free on a mat to participate in the nursery activities.

The simple verbal directions for use in the daily gross motor class conducted by the Physical Therapist are suggested by the Language Therapist. This class also offers an opportunity for daily group sound discrimination training by the use of music to accompany such activities as dancing and simple exercise games.

After the mothers have attended the Nursery class for a period of observation, they participate one day a week by preparing and carrying out a suitable class activity. Examples of the activities taught by the Language Therapist in conjunction with the other therapists include the following:

Body Parts - "Eye, mouth, nose and ear." Look at the baby doll, point to the doll's nose and name it several times. Then ask the child where is the "nose" or "baby's nose." With the visually impaired child, a life size realistic doll is most appropriate since the children seem to be able to point to the doll quicker than to each other. The facial features may be touched and outlined as to proper position and shape. Another step would be feeding the baby the bottle. "Feed the baby", "Put it in baby's mouth." Since the greater majority of the children have hearing aids and a great many have glasses, phrases such as "put it in your ear" or "put your glasses on" can be taught along with the facial parts. Use of the mirror with this activity is helpful in stimulating imitative facial play. Those children considered to be dysarthric receive special attention to such activities as "Stick out your tongue" etc.

Push or Pull Wagon - The use of the wagon has proven valuable for the children who are delayed in gross motor activity. The ones with braces who walk unsteadily can "push" by putting both hands on the back of the wagon. They can also "pull" with one hand and hold the therapist's hand for needed balance. For those without braces but whose coordination is poor, pulling the wagon gives practice in balance and eye-hand coordination. Even those children so motor involved as to be totally non-ambulatory enjoy participating in a small group as passengers in the wagon. Some standard language phrases might be "get in", "sit down", "hold on" and "get out." Allowing the children to "push" or "pull" the wagon to their mothers in the waiting room is a good activity with which to end the daily program.

Refreshment Time - This particular activity presents more problems than do most other speech or language situations. The great majority of these children are "feeding problems" and only two of the twenty with full programs are on table foods. In general, they reject anything wet or messy around their lips. They do not drink from a cup unassisted and all are on bottles at least part of the time. Tea Party Time has been limited to the more advanced groups using only liquid refreshments. As the Occupational Therapist dictates, crackers or cookies will be introduced. Using plastic cups and pots, the children "pour it", "drink it" and see that it is "all gone." Water is just as satisfactory as juice or other liquids for this purpose. With the visually impaired, the concept of there being "something to spill" has not developed and many spills do occur. Language here might be "it spilled", "feel it", "it's wet", "wipe it" and "throw it away."

OCCUPATIONAL THERAPY

The Occupational Therapist along with other team members, evaluates each child's individual needs in order to plan and conduct appropriate treatment. The major problems encountered in the children are the following:

1. Motor handicaps including upper extremity weakness, lack of muscle control, poor fine eye-hand coordination.
2. Inappropriate manipulation and usage of objects.
3. Perceptual difficulties including visual-spatial problems, tactile withdrawal, auditory impairment, delayed graphic skills.
4. Delays in self-help skills: feeding problems with chewing, swallowing and sucking difficulties; delays in basic dressing techniques and toilet habits.
5. Behavior problems including poor motivation, distractibility with short attention span; inappropriate mannerisms and "blindisms."

In the light of the presenting problems and the maturation level, the occupational therapy program is as follows:

1. Upper extremity strengthening and coordination with emphasis on fine eye-hand coordination where applicable.
2. Appropriate manipulation and usage of objects.
3. Perceptual skills: visual stimulation with shape, size, color and depth discrimination; tactile and auditory stimulation, beginning graphic skills.
4. Self-help skills: feeding and dressing activities and establishment of toilet habits.
5. Attempts to increase motivation, gain and increase attention, cope with inappropriate behavior.

Approximately 24 children have received Occupational Therapy on an individual basis two or three times a week in 20 to 30 minute sessions. In addition, 3 two year old children have been treated in the mother's training group in conjunction with the Language Therapist as previously described.

In treating the children it has been extremely important to use all types of sensory stimulation--visual, auditory, tactile, olfactory and taste. Activities stressing perceptual skills have been employed. Structure, repetition, and consistency of approach throughout all therapies have been essential. Regardless of the discipline or the therapeutic goal, language used for a given object or activity must be consistent in order to avoid confusing the child.

The Occupational Therapist has attempted to focus on self-help skills appropriate to the child's current developmental level. The therapist works with the parent to direct home training in the areas of feeding, dressing and toileting. Basic simple dressing techniques have been stressed by the use of the "busy board" activities of zipper, gripper, button, lacing, tying and buckling boards. When the child has mastered the "busy board" he is taught to use these techniques on his own clothing. Parent conferences have stressed dressing, toileting and other self-help skills.

PHYSICAL THERAPY

The presenting motor problems are dependent upon the age of the child, the neuromusculoskeletal involvement, and the extent of previous therapy. Delay in the acquisition of gross motor skills is evident in all of the rubella multiply handicapped patients. This may be functional due to association of other impairments, or may represent actual involvement of the organ systems responsible for motor function. These are:

1. Muscle weakness.

2. Spasticity or rigidity.
3. Limitation of motion in joints and muscles.
4. Postural deviations.
5. Delay in development of gross motor skills.

The methods of management based on the individual needs are outlined as follows:

1. Strengthening of muscles and coordination exercises through emphasis of the neurological developmental approach.
2. Positioning for prevention and/or retardation of deformity in order to achieve maximum function:
   a. Standing table with appropriate adaptive equipment.
   b. Chairs for sitting with appropriate adaptive equipment.
3. Development of gross motor skills:
   a. Rolling.
   b. Crawling.
   c. Moving from lying to sitting position.
   d. Sitting balance.
   e. Moving from sitting to standing position.
   f. Dressing, including applying equipment.
   g. Gait training (with equipment as indicated).

The present physical therapy program provides on-going treatment for those patients requiring interdisciplinary service and individual physical therapy in those instances in which patient service is not otherwise available in the community. For the children with major neuromusculoskeletal problems, individual sessions of 20 to 30 minutes with the parents are scheduled according to the child's needs. Emphasis is placed on a 24 hour program of positioning, use of standing table, assistive equipment and activities to stimulate motor development. Individual sessions are also scheduled for children without major neuromuscular involvement but who have such severe visual and hearing loss that they do not walk independently. The parent is instructed in methods of motivating the development of motor skills by the use of tactile, auditory and visual stimuli. Music and bright lights have been found to be especially effective. Other children with visual and hearing deficits have been placed in daily scheduled classes for gross motor development. The therapist directs the parent in teaching the child such activities as stair climbing, pushing and pulling large toys, walking a board, jumping from elevated places, doing forward and backward rolls, riding a tricycle and dancing. The mother may carry these play activities into the home environment using relatively simple and inexpensive equipment to stimulate gross motor development.

PSYCHOLOGY

Meaningful objective measurement of any child's developmental level has been difficult to obtain in a reportable form. Gesell testing was done at 9, 18, 36 and 48 months and formal age-appropriate psychological testing is being continued. Each child was given the Denver Developmental Screening Test at the original evaluative clinic at approximate age 2½ years and again after 8 months in the Nursery at approximate age 3½. A simplified diagram of the test form has been used to indicate by the solid line for age 2½ and the irregular line for age 3½ the child's actual test performance in Gross Motor, Fine Motor - Adaptive, Language and Personal-Social behavior as compared to the expected normal as indicated by the vertical line at the exact chronological age. One child has been selected as representative of each of the original classifications for program placement (mild, moderate and severe). Case D represents the "near normal" hearing impaired twin sibling of Severe Case C. (Tables 9, 10, 11 and 12.)

The diagram of the Mild multiply handicapped represents the child who was placed in the public school program. That of the Moderate multiply handicapped child represents one who has been in the Nursery program for the second year. Table C is that of the child who was placed in state school. Table D is the near normal twin sister of C. Behavior problems in this child were one of the factors prompting the placement of the brother in state school. She herself is scheduled to attend a language development program in the public school system.

A program of behavior modification is being developed by the clinical psychology staff to deal with the maladaptive behavior observed in some of the children in the MOST SEVERE category. Due to their maladaptive behavior, their lack of progress would seem to be out of proportion to the physical defect.

SOCIAL SERVICE

The social worker participates in both the diagnostic assessments and the therapeutic program. A close working relationship between the social workers and the therapists facilitates interpretation of the family's reactions to following the program as well as to provide a means for further interpretation of the therapists' goals to the family. The more help the parents have had through casework or group sessions with their day to day problems, the greater has been their ability to cope with the situation of a multiply handicapped child and its effect on family functioning. The mothers have benefited from daily contact with each other and many fathers have participated in the evening parent groups.

CHART ROUNDS

Weekly interdisciplinary Chart Rounds are held to consider placement of new patients and to assess the progress of each child in the Nursery at regular intervals. All therapists, the physician, social worker and consultants, where indicated, attend these staffings. Any staff member may request that a given patient be discussed at chart rounds out of regular rotation. Any changes in general medical, orthopedic or therapeutic management as well as family problems influencing the child's participation in the Nursery are discussed and appropriate adjustments initiated.

STUDENT TRAINING

One of the major functions of the Child Development Clinic is the training of professional personnel. In the general program of the Clinic, there are students in social work, public health nursing, psychology and medicine. Student training in the Nursery specifically has included physical therapy and child development students as well as observation by other disciplines. All trainees in the Clinic are expected to participate in the interdisciplinary programs and observe evaluations and staffings by all professional groups. In this way, student training includes a learning experience which is more varied than that provided by concentration solely in one's own field.

CONCLUSION

During the past two years, 41 patients with multiple handicaps and varying degrees of functional disability have been managed by an interdisciplinary program of habilitation. Although initiated to meet the needs created by a rubella epidemic, the basic methodology and program concept can be applied to any child with multiple impairments regardless of etiology.

Table 1: Caseload of Rubella Study, 1967-1968.

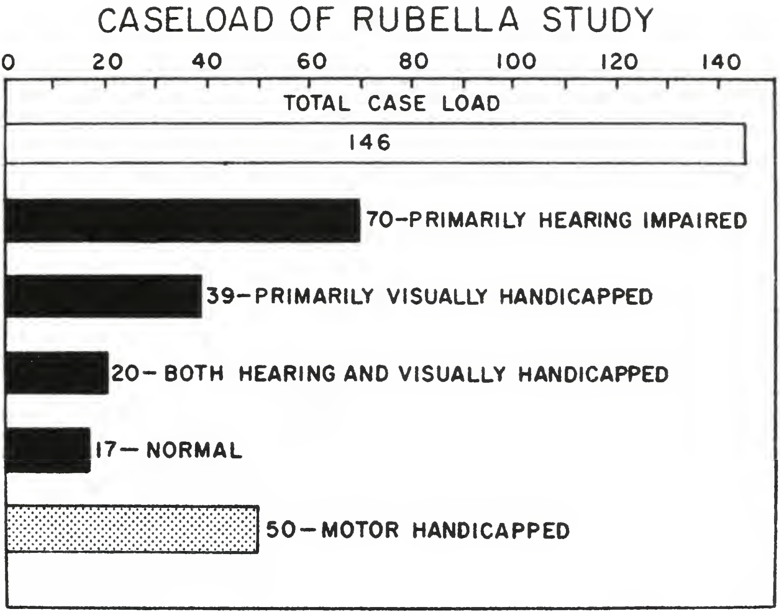


Table 2: Therapeutic Program Needs at 2½ Year Examination, 1967-1968.

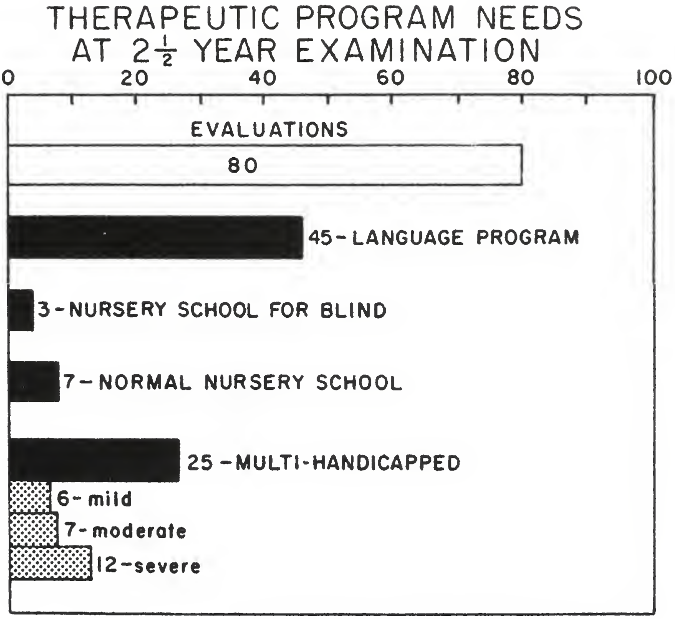
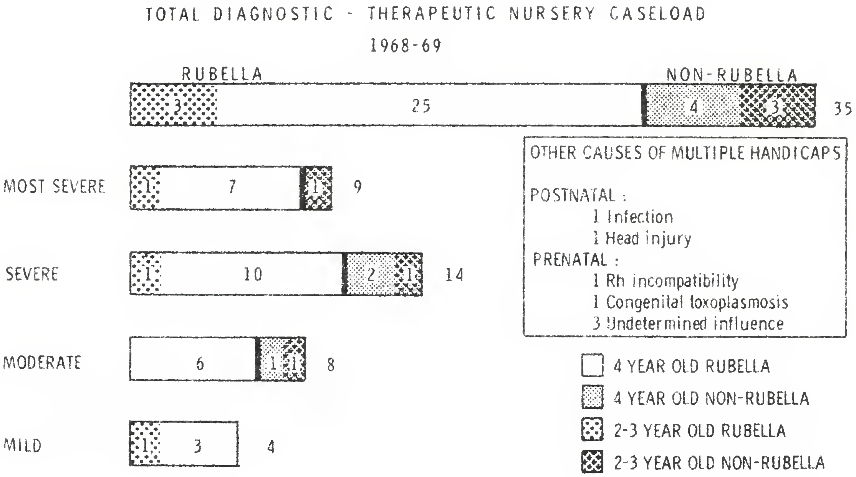


Table 3: Total Diagnostic-Therapeutic Nursery Caseload, 1968-1969.



TOTAL DIAGNOSTIC - THERAPEUTIC NURSERY CASELOAD
1968-69

OTHER CAUSES OF MULTIPLE HANDICAPS

POSTNATAL :
- 1 Infection
- 1 Head injury

PRENATAL :
- 1 Rh incompatibility
- 1 Congenital toxoplasmosis
- 3 Undetermined influence

Table 4: Criteria for Program Placement, 1968-1969. Functional Impairments Due to Physical Defects.

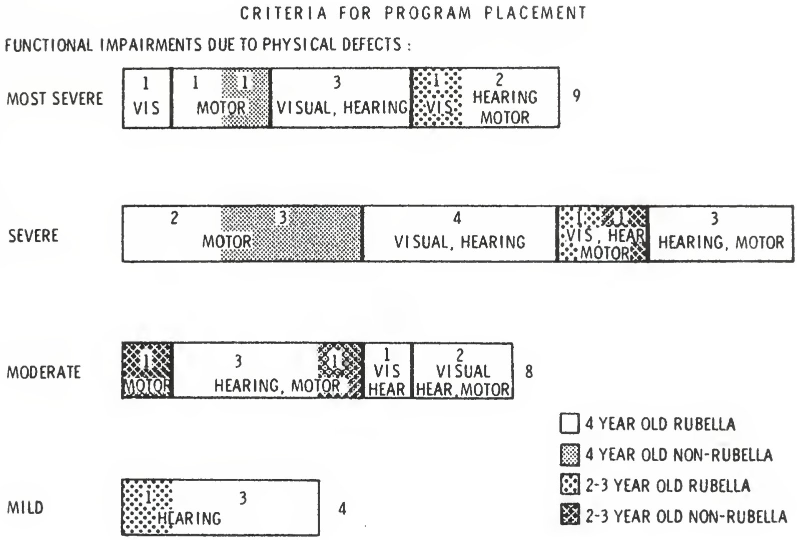


Table 5. Criteria for Program Placement: MOST SEVERE

CRITERIA FOR PROGRAM PLACEMENT
MOST SEVERE

CHARACTERISTICS:
SELF-STIMULATION, UNAWARE OF ENVIRONMENT, SEVERE LANGUAGE DELAY-PRELINGUISTIC STAGE

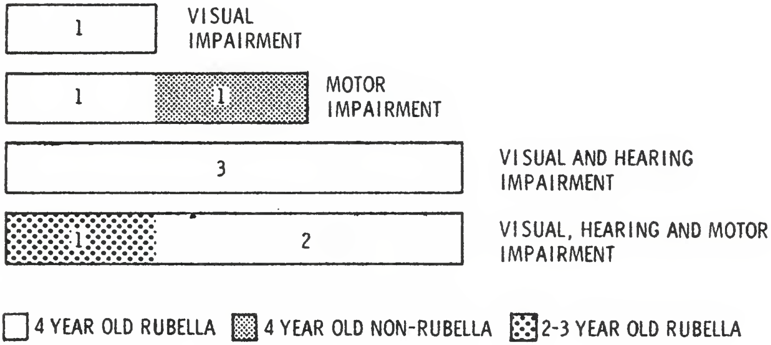


Table 6: Criteria for Program Placement: SEVERE

CRITERIA FOR PROGRAM PLACEMENT
SEVERE

CHARACTERISTICS :
AWARE OF ENVIRONMENT, BUT UNABLE TO MANIPULATE AND RELATE APPROPRIATELY, SEVERE LANGUAGE DELAY-PRELINGUISTIC STAGE OR SOME COMPREHENSION.

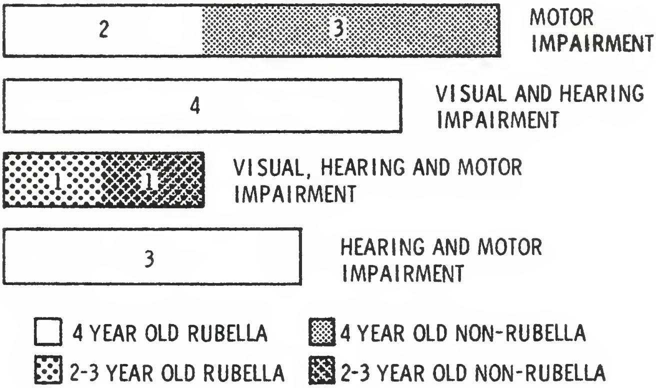


Table 7: Criteria for Program Placement: MODERATE

CRITERIA FOR PROGRAM PLACEMENT
MODERATE

CHARACTERISTICS :
AWARE OF ENVIRONMENT, INCONSISTENTLY RELATE AND MANIPULATE SOME OBJECTS APPROPRIATELY; SEVERE LANGUAGE DELAY-COMPREHENSION ABOVE EXPRESSION

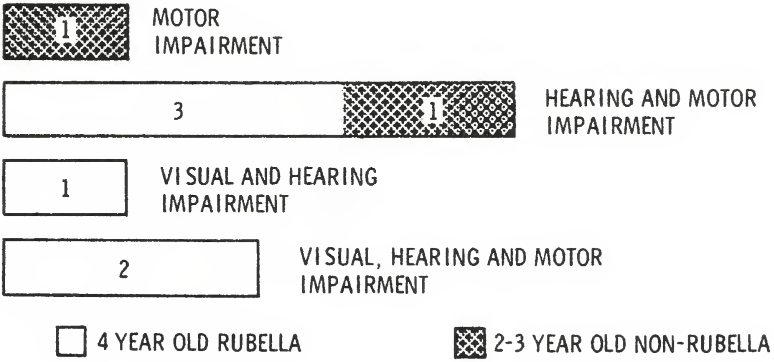


Table 8: Criteria for Program Placement: MILD

CRITERIA FOR PROGRAM PLACEMENT
MILD

CHARACTERISTICS :
PRIMARILY LANGUAGE DELAY WITH COMPREHENSION GREATER THAN EXPRESSION AND MILD DELAY IN ADAPTIVE, FINE MOTOR AND PERSONAL-SOCIAL DEVELOPMENT.

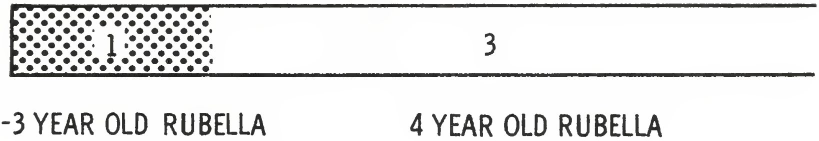
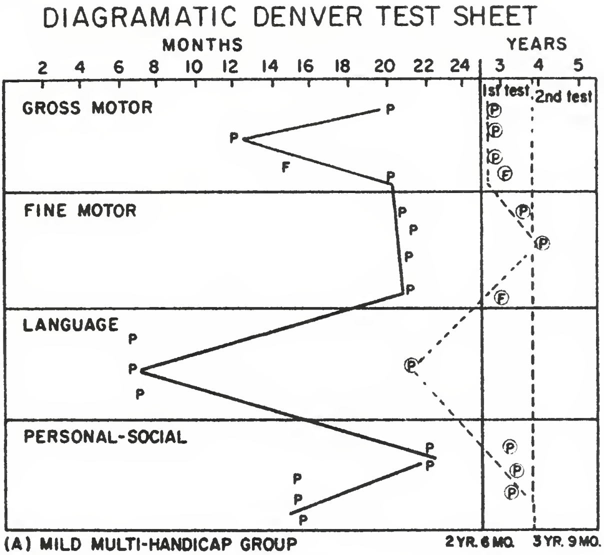


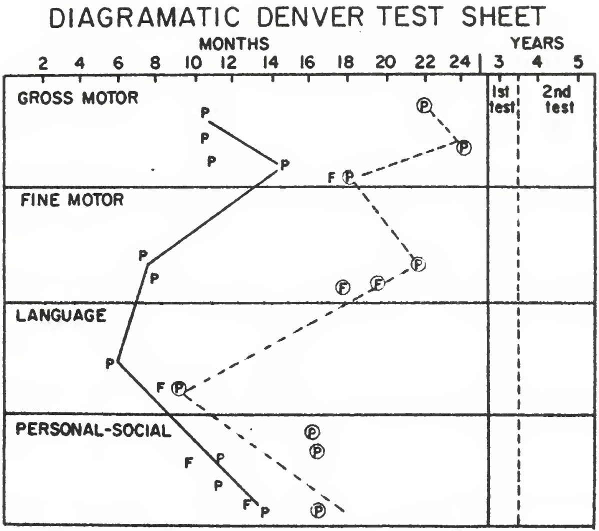
Table 9: Diagramatic Denver Test Sheet: Mild Multi-Handicap Group



(A) MILD MULTI-HANDICAP GROUP

Neurosensory hearing impairment,
Mild cerebral palsy,
No visual defect

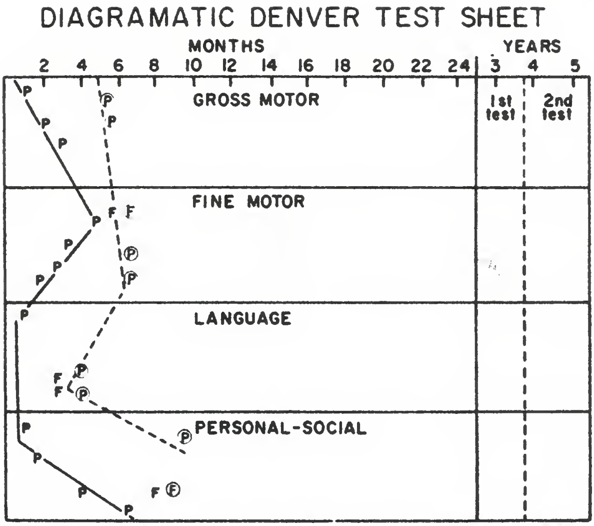
Table 10: Diagramatic Denver Test Sheet: Moderate Multi-Handicap Group



(B) MODERATE MULTI-HANDICAP GROUP

Cataracts, post op.; Microphthalmia
Bilateral neurosensory hearing impairment,
Moderate motor handicap

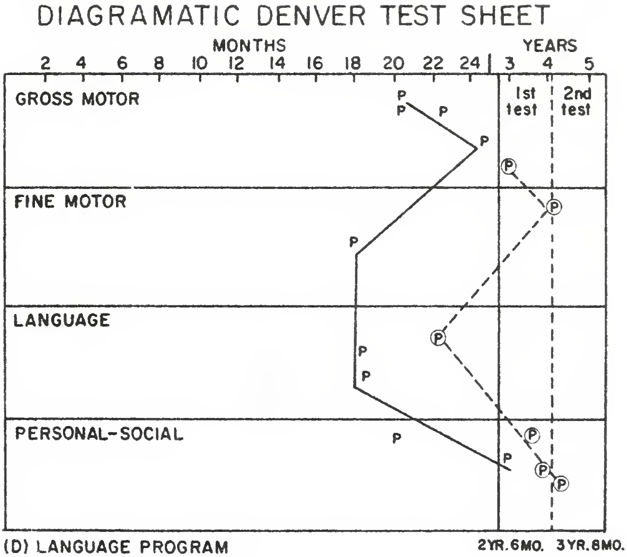
Table 11: Diagramatic Denver Test Sheet: Severe Multi-Handicap Group



(C) SEVERE MULTI-HANDICAP GROUP

Visual impairment, Hearing impairment,
Severe hypotonic cerebral palsy
Convulsive disorder

Table 12: Diagramatic Denver Test Sheet: Language Program



(D) LANGUAGE PROGRAM

Neurosensory hearing loss
"Near normal" child

MULTI-HANDICAPPED SCHOOL
AZUSA UNIFIED SCHOOL DISTRICT

Mr. Donald A. Welch, Coordinator
Project "MH"

INTRODUCTION

The East San Gabriel Valley Cooperative School for Multi-Handicapped Children is an outgrowth of a Title VI proposal entitled "Project MH". This school offers an educational program for children with more than one handicap. To qualify for admittance, the primary handicap must be in the physically handicapped categories of vision, hearing, or orthopedic. The secondary handicaps generally fall in these categories also, but may be developmental or emotional in nature. Retardation is not one of the acceptable handicaps; however, many students are functioning in the retarded range. We assume that currently there are no positive means for measuring retardation in children with hearing and vision handicaps, but many children appear to be functioning as such because of the nature of their handicaps and, therefore, deserve the multi-sensory approach afforded all children in the program.

Currently in the program we have nineteen multi-handicapped three to eight year old children being served by three teachers, four aides, three to four parents each day, four high school students, a secretary, and one coordinator. Each teacher has a specialized credential for either the visually, aurally or orthopedically handicapped. The teachers work as a team, sharing ideas, observations, and planning the daily educational task. The observations and ideas of the aides and parents are also included in the team effort.

Before I go on, let me say a little about each of our multi-prepared teachers. Helen Price, in addition to her orthopedically handicapped credential, has nearly completed her work for the deaf and hard of hearing credential; she possesses a school psychologist credential, and has worked with orthopedically handicapped and educationally handicapped children. Glenyce Ransom is our teacher with the deaf and hard of hearing credential; however, for a number of years she was a music consultant for the Azusa Unified School District. She has been instrumental in establishing many rhythm activities and has composed and arranged music for specific occasions within our program. Michele Allen, in addition to holding a visually handicapped credential, has danced professionally; she does choreography for local organizations. She has been responsible for many physical activities requiring the youngsters to attend and enabling them to become more aware of the kinds of things their bodies can do. These teachers have been able to put to use all of their talents.

PLACEMENT PROCEDURES

The twelve- district cooperative also provides educational programs for children with categorical handicaps. Two districts provide instruction for the deaf and hard of hearing for the cooperative; one district for the orthopedically handicapped; and another for the blind and partially sighted. The administrator or coordinator of each program serves as a member of the admissions and dismissals committee along with a public health nurse and the coordinator of the Multi-Handicapped Program.

Because of the make-up of the committee, the parents are almost assured of finding a place for their handicapped child. Several children who have come before this committee were placed in one of the other programs because the person who could guide that decision was present at the admissions conference. This is especially significant because these parents, for the most part, have searched for a number of years for programs for their children.

HISTORY

The directors of special education in the East San Gabriel Valley meet monthly to discuss common problems and concerns. Early in the 1967-68 school year, attention was focused on the rubella children; several directors participated in two state-sponsored institutes where the rubella children were discussed. Although the children were only one, two and three years of age at the time, we were concerned about the implications when they turned six. At one meeting, we discussed the situation. By the next meeting, we had been contacted by the Rubella Parents Association. As already mentioned, in this institute, the Rubella Parents were a forceful group.

These parents (at least in the Southern California area) were organized. After seeking help from every conceivable agency and clinic, and even sponsoring their own workshops, they were ready to encourage us, to say the least. Fortunately, the directors were already convinced it would be too late to wait and had taken steps to initiate the program.

Title VI came on the scene around this time. At a meeting on

December 8, 1967 in Los Angeles, Dr. Harold L. Heywood, Director of Pupil Personnel Services in the Azusa Unified School District, had a proposal waiting. Although not yet funded, the Title VI representatives gave him all the encouragement he needed. The tentative proposal was given to a subcommittee of the directors of special education for suggestions and modification and returned to Dr. Heywood for final drafting. Although we received nearly all we asked for from Title VI, the major portion of our current funding is from state and local sources.

The proposal submitted to Title VI called "Project MH" consisted of a four-phase educational program for multi-handicapped children not presently eligible for categorical programs, or inappropriately placed therein.

Phase I -- The investigation stage involved the searching, meeting, decision making, etc. necessary for writing a proposal. This required no Title VI funding.

Phase II -- The preparation stage involved a two-month summer workshop. This phase was funded totally by Title VI and also included the purchase of equipment.

Phase III -- The educational program. This phase began in September of 1968 and will continue through June of 1970 or 1971. Building rental, equipment, and three workshops were funded by Title VI. During the 1968-69 school year, we sponsored three workshops: one for parents of handicapped children; one for students currently in college but not necessarily in special education; the third workshop was for professionals already working with handicapped children.

Phase IV -- The building of a facility designed specifically and uniquely for "MH" children. By 1971 we hope to have a building for multi-handicapped children based on what we have learned during Phase III, the educational phase.

During the preparational stage, Phase II, our staff, parents and teachers were involved in a two-month summer workshop. Approximately thirty experts from the single-handicap fields, using the children being considered for placement in the multiple-handicapped program demonstrated techniques and discussed with our staff and parents implications for the multi-handicapped. The staff observed, applied, and modified many of the techniques learned during the summer and decided positively how each child was to be programed at the beginning of the educational phase. By the end of the summer workshop, we had contacted all potential multi-handicapped children known to all agencies within the East San Gabriel Valley and identified those youngsters who would start the program. By the end of the summer, we had also become aware of the many specialized equipment needs.

THE FIRST YEAR - SEPTEMBER 1968/JUNE 1969

PARENTS AS AIDES

The decision to require mothers to be a part of the program one day per week has become a very important concept. The additional help is needed. Some activities require three adults with one child. Of greater importance, however, is that follow-through at home of successful school experiences, and vice versa, is enhanced when staff and parents work closely together. In addition, mothers gain from each other; that is, they are no longer alone.

During the first weeks, we were not so positive that having mothers present was such a great idea. The adjustment was painful. We did not know how to use them. We were uncertain of our own methods. With this emotional strain, along with the physical fatigue inherent in this kind of program, the three hours the children were in school seemed more like thirteen. When changes in behavior and growth began to occur, it all seemed worthwhile. It was not at all unusual to hear a teacher or an aide down the long hall shouting for someone to come witness a breakthrough--tears of happiness streaming down her cheeks.

As behavior began to change and growth was apparent, relationships between teachers and parents changed--not all positive, however. Guilt feelings were apparent in a few mothers. We were expending a great deal of energy on each child. A few mothers had difficulty accepting the resulting growth, perhaps for a number of reasons. During a parent meeting, one reason became obvious. There was a feeling that they had not done enough. They could not carry through with all the activities they were witnessing. In addition, three or four years in the home did not produce the growth that four or five months in school had produced. During the meeting, the teachers clearly stated it would be impossible to work as intensely with a child at home as we could at school. Only a few tasks required follow-through, primarily to minimize confusion for their child. From that point on, acceptance of the program was nearly complete.

With few exceptions, very positive relationships between parents-teachers and parents-parents have evolved. Several mothers would come more often if we allowed it. Early in the program, we had difficulty with several children on the days their mothers served as aides. They were usually unhappy and more demanding on those days. On the positive side--since many of these parents and children had been to various clinics, several of the mothers were able to provide educational help to the teachers. For instance, in our auditory training station, Glenyce often has parents prepare and present lessons to the children.

THE PHYSICAL PLANT

With the help of Title VI, we rented a church educational unit to begin our program. In this unit, we have two adjoining large rooms, a long hall with eight smaller rooms, and a closed-in courtyard. We were certain this facility was going to be less than ideal, but the best available at the time. Actually, the building has been very good for us. The large rooms are ideal for socialization and physical development activities. The long hallway turned out to be excellent for motor development as a number of our children have learned to walk--first by being supported in a walker, then by using the walls for support.

The small rooms on both sides of the hall have become learning stations. The learning-station concept has been both interesting and workable. One room has become our auditory training station, one is used for feeding and toileting, and others for: rhythm and audio-visual, tactile kinesthetic, smell and taste, and audio-vibration, etc. The teachers, aides, and parents can work with one or more children at a time in these stations. Since our program emphasizes a multi-sensory approach to learning, the small rooms have served a useful purpose.

The slides you have been seeing help to illustrate the use of parents as aides and how several small rooms have been transformed into learning stations. The following slides will be of special equipment purchased to meet needs of the population we are serving.

1. Stand-up Table
2. Ramp and Steps
3. Cartridge Tape Recorder with Audio Vibrators (the speakers on this last instrument will cause solid objects to come alive with music and vibrations)
4. Rocking Chair and Rocking Boat
5. Support Bars
6. Barrel Horse
7. Stairs
8. Music Aids
9. Video-Tape Recorder and Camera (the video tape is used to store information on the children and as an instructional aid)
10. Audio-Amplification System with a Teacher-Control Unit
11. Head Set and Student Receiver Pack
12. FM Transmitter (the transmitter allows the teacher to move about without wires)
13. Tuber (this is one of the most valuable pieces of equipment we have; many students have come alive on this bouncing, vibrating device)
14. Crawl Box--made and donated by an interested party
15. Pillows--one for each child; donated by a woman's group in Azusa

In addition to the equipment you have just seen, we have vibrating pillows, mats, scores of perceptual-motor, visual-motor and tactile materials.

THE EDUCATIONAL PROGRAM

Initially, we wanted to know for each child the answers to the following questions:

1. How does the child learn?
2. What rewards the child? How is he motivated?
3. How does the child relate to others? Does he relate best in an adult-group setting, adult-child setting, with one peer, or alone?
4. What does the child know now? Where is he developmentally?

For the most part, we quickly decided which children required a one-to-one relationship or, as in the case of patterning, more than a one-to-one relationship. The other children, we felt, could adjust relatively quickly to the adult-group settings. They did adjust, but not necessarily quickly. Most of our children had never been with peers in groups.

To determine how each child learned, what rewarded or motivated him, we put the team concept to test. We shared thoughts and feelings, tried and discarded many ideas. The staff was anxious to try many techniques learned during the summer or during their training years in college but found they did not always work.

We did feel it was important that the child "want" to be in school. Many of the children were unaccustomed to having their worlds structured and were masters at avoiding people or pushing people away. So, instead of structuring their world, one aide was assigned to be with an individual child, doing as much as possible what that child wanted; in other words, entering his world.

It was another story for those youngsters content to lie on the floor, flickering light through their fingers, clapping their hands or involved in some other self-stimulating activity. They were off the floor whether they liked it or not. Our assumption was that it is an entirely different civilization in the prone position. It feels different, sounds different, smells different and, according to Kephart, the gravitational forces are different. Some, we literally dangled by straps in a walker. One such boy was turned on by light; one day while in his walker with the light source in front of him, he moved his feet, perhaps in excitement, and found he could move toward the light source. Within two weeks, using this light carrot, being walked and kept on his feet, his mother excitedly reported that she could actually feel muscles in his legs. He graduated to walking in the stroller without straps; to hanging onto a stocking with an adult on the other end; then to simply hanging onto the stocking; and now, finally, totally unassisted.

The children who were masters at avoidance were usually more object-oriented than people-oriented, however. They began to allow their assigned adult to be with them; even allowed her to initiate an occasional activity until a bond developed between them. When the aide tried to introduce others into their circle, generally there was rejection. We thought we had created another problem. Eventually, however, their sphere expanded to include more and more people at a time.

An assumption was made, especially for those ready for language development--or nearly so, was that attention is essential for meaningful response. This meant we had to find the motivational key for each child. When we turned the key and the child attended, he was rewarded. Later the response was rewarded.

Developmentally, our children were at various levels. We, therefore, focused our attention in the following six general categories:

1. Daily Living Activities--which included feeding, toileting, dressing, etc.
2. Socialization and behavior modification.
3. Motor Development.
4. Tactile Kinesthetic Experiences.
5. Language Development.
6. Spatial Awareness.

I will now illustrate, with a few summaries of case studies, what we did with our observations and how we operated within the six general categories. Keep in mind that the categories were used as a frame of reference for our observations and planning.

Kimberly (blind, profoundly deaf, with emotional problems):

Description of Admission Behavior: Kim could walk well, however, preferred to lie on her back and clap hands vigorously or pound feet against the ground vigorously; not potty trained; no speech; whenever anyone but her mother tried to touch or work with her she would make a loud sound and push the person away or go back down to the floor either on her back or in a fetal position with head way down; could drink from a cup - milk only - but ate only baby food when fed by her mother; her way of feeling objects or getting about was through use of her hands, kept rigid like paddles and clapping--she would not hold anything in her hand, nor had any type of a grasp; did not do anything in the way of self-help; extremely poor relationship with strangers.

Description of Current Behavior: Kim now walks about the school room rarely reverting to her behavior of lying on the floor and even makes many attempts to explore and feel anything she may find as she now will hold onto an object in her hand for a few minutes or until she seems satisfied that she has discovered it; beginning to have a grasp of sorts; she is extremely close to being potty trained and now wears silk panties instead of diapers as in September - will perform about every hour and can even wait beyond that time; no speech yet, but is now making many more sounds and doing much more with her mouth such as blowing bubbles, opening it very wide, and loves to laugh especially when tickled; Kim is still on baby food, however, will now take a few bites of a cracker (doesn't chew by self however) and, if helped to scoop up the food from her dish will feed herself with a big spoon; can now do some simple manipulation with help such as finding things on our busy boxes, can take rings off a stack, can put square block on top of the mailbox, will reach for favorite objects if placed on her legs, such as sponges or pieces of paper; she will now climb up on your lap and be very passive when worked with on language - will allow person to hold her hands to their mouth and to hers.

Kim began the program in September, with few days of absence. It was recommended that she repeat her placement in the multi-handicapped program next year, with special stress on her chewing and eating solid foods, potty training and language development.

DESCRIPTION OF METHODS AND TECHNIQUES USED

The primary techniques were the establishing of a consistent routine throughout the school day and moving very slowly but very consistently with her.

Establishing a Relationship: First few weeks everytime I was with Kim I held her *very* close (even when she tried to push me away I would force her to be with me) and sometimes we would sit in the rocking chair for 20 minutes or so just rocking and singing but being very close; I wore the same perfume each day and felt that by the end of the third week she became much easier to work with and seemed to know who I was.

Potty-training: Established a set routine - every half hour - and established a signal - stood behind her, took her right hand and tapped her right leg twice, pulled down pants, turned her around and sat her down on a baby seat that fit on the standard size facility; while she sat I never left her side and continually used the tadoma method to say, "Go potty" and would pour warm water on her; if she performed I would kiss her cheek, take her hand on my face and make a nodding "yes" gesture while saying, "Good girl", then gave her the signal to get up (stroke up the back), made her pull up own pants and then would immediately have her wash her hands (at the beginning she got very angry and would push away - now loves the water and gets upset when I stop!). I have kept the same routine all year and she now makes attempts at the tapping signal (however not at the appropriate time), will sit down by herself and will pull up her own pants.

Eating: Would put cookies or crackers in front of her to feel or smell, but would only crumple them and throw them off of the table so I then used a force method by opening her mouth (pushed down on her lower jaw and up under her nose), placed the cookie between teeth, then forced her mouth shut, forced her to chew by moving jaws up and down and also put her hand on my mouth while I chewed - this technique has worked only insofar as she will now take a bite of cookie or cracker herself if I hold it to her mouth and she will let me maneuver her jaws very easily; for feeding herself I used the same dish and teaspoon and forced her to keep her hand on the spoon while I scooped up the food and put it into her mouth; after about five months she would hold onto it herself and now will put the spoon into her mouth. Semi-solid food was tried mixed in with baby food and continually used the chewing technique throughout the feeding process. However, at first she would spit the solid food out, then she became very stubborn and would not eat at all and now she will eat some semi-solids such as hash or vegetable soup, but she still does not like it!

Language Development: Have always used the Tadoma method and began with "ball" since she seemed to like and would hold a ball; it was very difficult to get her hands to my mouth and took me several months just to establish a passive (somewhat) response to this; during those months I took every opportunity to "talk" to her using "ball", "go potty", "jump" (I taught her how to jump), etc. I next worked on sitting her in my lap and putting her hands on my mouth while I babbled such sounds as "ba ba" and then tried to get her to touch her own throat and mouth - this again took several months and she still does not like to touch herself; many times when I talked to her I would get as close as I possibly could with my mouth on hers many times and whenever I talked to her, I held her very close.

Vibration: Use of many items for vibration brought about favorable responses from Kim. When introduced to the Rolen Star tape recorder vibrator she clapped, smiled and seemed totally enthusiastic--used this each day throughout the months by putting it on a table, chair, or floor with her in contact and would sit with her moving body parts and singing closely with her or beating or clapping to the rhythm of the music. We used a giant innertube that was kept outside which we would put her on and bounce with her or have her jump on it with help; the use of a vibrating pillow during the time she was not being worked with helped keep her off the floor as we put it in the rocking chair and she would stay on it because she liked it so.

Establishing a grasp with her hands: I continually worked with her hands either rubbing them or moving her fingers in all directions; took soft materials and sponges and forced her to squeeze them; made her hold onto bean bags, throw them and then crawl after them; played with a ball by standing behind her to hold her hands on it to bounce it or sit on the floor and roll it against the wall and catch it; would put objects she liked on her lap, head, or shoulders so she would reach to get them off and if she got something she liked, she would hold onto it or clap at it.

Anything at all I wanted to do with Kim or teach her I always worked very closely and from behind so that it was almost as if I was doing it myself.

RECOMMENDED METHODS AND TECHNIQUES FOR CONTINUED GROWTH

Daily Living Activity: Continue work on chewing and eating solid foods in the same manner as has been done as I feel that if consistent and worked on at home there will be growth this year in this area; continue the potty training in the same manner with emphasis on a definite signal; needs much more self-help activity--should learn to take off her clothing and put it on; how to wash own hands and brush her teeth.

Socialization and Behavior Modification: Whenever possible, put her in a group situation to touch and recognize other children; should continue to break the habit of lying on the floor by keeping her up and busy at all times; continue to break habit of incessant clapping by keeping hands busy with toys or objects and use of hands to track walls for mobility.

Motor Development: Continue tumbling exercises as this year she learned to roll herself and do a front and backwards somersault and is now beginning to move arms up and down during "angels in the snow" activity; keeping her as active as possible by having one person run and jump with her; work on a tricycle. She swings and slides at home. Needs much more work in developing use of body parts in such activities as kicking, swaying, bending up and down, jumping in various directions. I feel she has potential to learn to use her body and become much more mobile.

Tactile Kinesthetic: Much work needed in developing motivation for exploring, finding and examining objects; use of textures good - I began braille words for added texture along with language; her hands need to become much more flexible and she needs to find out what can be done with hands and fingers; constant massaging and encouragement for finger plays and object finding would be most helpful.

Language Development: Continue Tadoma method along with the hand dot sign language we began recently; needs much oral stimulation as she resists anything near or in her mouth, but recently began letting me massage the left side of her gums and puckering her mouth in an 'o' position; needs lots of stimulation on her lips and gums - use of brushes, ice, finger massage or various textures on her lips would be excellent, not only for language, but for a pre-activity in eating; have had aresponse in the last week of school when I would open her mouth, put her one hand on my mouth and throat and her other hand on her mouth and throat and say, "ah"...she began responding by saying, "ah" (of sorts) occasionally.

Spatial Awareness: This could be easily done through any and all tumbling exercises; the angels in the snow, use of innertube, and rocking stairs. Needs more help in finding toilet facilities by self and tracking along wall so she could go from one room to another by self.

Lynn:

Description of Admission Behavior: Lynn's behavior toward other children was extremely aggressive--running into them when on a tricycle if they were in her way, running at them with animalistic noises, striking and flailing when within reach of them. Her behavior with adults was similar, although it was possible to calm her down. It appeared that she resisted and did not like adults moving into her world and demanding that she behave in a manner other than the way she wished. Her communication with others was mostly by movement, sometimes accompanied by noises and seemed limited to when she was displeased. Her motor coordination was somewhat stiff and lacking in fluidity.

Description of Current Behavior: At present Lynn's behavior is less aggressive toward other children. The others seem less frightened of her and will even sit next to her. She stops on the tricycle when another child is in her path. Lynn is beginning to understand and use some sign language. She strikes out, flails and runs away less frequently, but she has begun to clap her hands toward and on a person to feel them and, at times, will lie down on the floor on her back and with elbows and knees bent, will engage in clapping her hands and stamping her feet. She seems to be more capable of relating to others. Her motor coordination is only slightly improved.

Description of methods and techniques used: Many persons, at different times, have seemed challenged by Lynn and wanted to help her. During the year probably four distinct persons have put forth several weeks of concentrated, one-to-one effort to try to break Lynn's interpersonal barrier.

For many weeks she was rocked half hour a day. Toward the end of this period communication with the person rocking her was attempted while rocking in front of a mirror. This did not seem to be an answer, although Lynn thoroughly enjoyed the personal contact.

She then became fascinated by the audio-visual-tape and would do nothing while it was running but try to find herself on the screen. During this period, a speech therapist worked with Lynn, but, too, became discouraged.

Then it was that Lynn discovered the two upright mirrors in the room and she found that she could arrange them in such a way that she could see herself in a number almost to infinitive. She went through all kinds of movements and antics in front of the mirror, never seemingly happy, but rather angry. At this point, a person stood in the mirror with her and imitated her movements. After about six weeks or more of interest in the mirrors, she became less interested in them and at present pays little attention to them.

Hand spelling was tried and she seemed to progress a bit--she would write the word for the object on the paper, but was most upset when it was written on her hand, and, at no time, would she attempt to write it on the hand of the person working with her.

At present, and still in a one-to-one situation, sign language is being used to communicate with Lynn and the person working with her at school, after three weeks is delighted with Lynn's progress. Words are coordinated between the home and school, too.

Stacey:

Description of Admission Behavior: On admission, this beautiful, pixie-like little girl would work only in the light, mostly out-of-doors, would relate to no one; later to one person, and when anyone came near her, would scream, "Leave her alone". She played with cars, exclusively, and by herself. At snack time she would neither eat or drink. She also smelled many of the things that she touched and this often included persons. Stacey's speech was good except for the use of pronomials.

Her vision was, and still is, puzzling. Sometimes she would see, other times she felt her way about the room or felt for items with which she was working. Both her vision and her behavior were noticeably better on sunny, bright days than on dull, cloudy days.

Description of Current Behavior: Stacey continues to be the attractive child that she was on admission. She now will talk to many persons and she seldom runs away from any of the children. She particularly enjoys and plays with another little girl about her own age, Chrissy. She will eat her snack and drink her juice. She seldom screams, though she is still hesitant to try out new equipment and strange places. In these situations she reverts back to her earlier terrified behavior. There are days in which Stacey attends and follows directions well and sees clearly, but there are just as many days that she neither sees nor is aware of things around her. This same type of behavior can be observed intermittently throughout the day, also. During her trance-like periods she can easily be startled, however, and if she is, she becomes frantic, gets a wild look in her eyes, screams, and usually runs to an adult. Although she prefers to work in the bright light, she will gladly sit near a window and work at a table. She finds it difficult to choose task items for herself and she needs fairly close supervision in doing a task--more to keep her mind on it and encourage her.

Description of methods and techniques used: One aide worked with Stacey exclusively for the first three months. The aide attempted to enter Stacey's world by playing with Stacey's then favorite toys--cars and trucks--out in the sun, and then out in the sun in front of a mirror.

When others came near and Stacey screamed, "Leave her alone", the aide would put her arm around Stacey, bend down to her level and say, "You're all right Stacey". The two explored any new equipment that Stacey seemed to take interest in. Stacey moved from trucks to simple puzzles, to beads, to looking and talking about pictures, and then to various other activities found in the room. At first, no one ever made the first move toward Stacey, nor imposed their will upon her. Now, however, it is possible and without catastrophe to move Stacey forward, i.e., out of pattern and into a field, by insisting, kindly but firmly that she do it. By use of such method she began drinking juice, she climbed on things, etc. The two difficult areas that remain are her vision and her inability to tolerate and function in a large group of children (say more than 18-20). Her vision remains as aforedescribed. Her motor skills are somewhat below age level.

George (hearing impairment - left ear, orthopedic problems and Hypoglycemia - seizures):

Description of Admission Behavior: Pleasant, happy little boy. Had considerable amount of speech, but mostly parroted what was said to him. Rarely initiated language. Wet pants frequently in beginning of school year; also had bowel movement several times. Loved having his picture taken. Laughed a lot and was quite active. Was given a great deal of attention because of seizures.

Description of Current Behavior: Has more language. Comprehends what is being said to him and gives correct answers. Loves to participate in early morning music group activities. Enjoys auditory training.

Initiates opinions when others are misbehaving in group. Tells them off in long sentences with proper stresses, pauses and rise and fall of voice, but words not distinguishable. Plays well alone or in group. Still has seizures when overly excited or over-active physically.

Vocabulary: Many words, phrases and sentences but has just begun to comprehend what he is saying. Has recently gained awareness of "me, my" - 'you and your".

Description of methods and techniques used: George was assigned to an aide the first few months. He became dependent on her and reverted to infantile behavior on occasions. She realized what was happening and withdrew from him as a constant companion. From this time until the present, he has been more independent and stronger in his personality.

Orthopedic: Specific routines have been worked out for him as prescribed by Dr. Allen noted previously. He also goes through the motor development routine with the other children: rolling, tumbling, somersaulting, walking up and down stairs.

Hypoglycemia: Mother sends lunch and orange juice. When George stares and becomes rigid, he is given orange juice. He has immediate recovery from reaction.

Snack Time: George dawdles at snack time so after 15-20 minutes food (sandwich or cookie) is taken away. This has worked and he is now adjusting to eating snack with other children.

Language: One of five children integrated in class where many experiences provided for talking about activities. Rhythmic speech influenced by providing creative movement in dancing, singing, swaying, clapping, beating drums and playing piano. Roles were changed when George took over directing the teacher through hand signals.

Auditory Training: When George indicated he wished to control amplification, he was allowed to set his trainer at the level most comfortable for him. Since he had more hearing than other members of the group, he was used as model for other children because he responded correctly. However, only recently he has ceased parroting phrases and shows comprehension by giving correct answers.

Speech: Presented sounds in words in context, using persons, articles, animals, foods and toys.

Strong rhythm program has helped his rhythmical speech habits. This teacher feels in order to get back pleasant and normal sounding speech, it is very important to give what you expect in return. Therefore, adults need to constantly monitor their own voices. Enthusiasm sometimes causes adult voices to rise in pitch and produces fast speech. It would be advisable to have a lesson taped occasionally without your being aware at the time it is done. This should come from the teacher by request and not from the principal or done without permission. This could be a fun agreement by all staff members who wish to improve their own language.

Numbers: How many? This can be used in just about everything you do. Visual aids of toys, books or anything you wish to use for language can be done in numbers.

RECOMMENDED METHODS AND TECHNIQUES FOR CONTINUED GROWTH

Daily Living Activity: Continue in independent dressing and toileting.

Has tendency to dawdle and extend eating time. Take away snack at end of 20 minutes. If not finished, give orange juice within the hour for hypoglycemia. Watch for seizures and give orange juice when he stares into space. Needs help in shoe tying.

Socialization and Behavior Modification: Very social and happy. No behavior problems. Continue to talk with him and listen to him. Stays in bathroom unless you prod him. Needs concept of time.

Motor Development: Needs lot of exercise. Should be watched to prevent walking on his toes.

Exercise routine:
1. Grasp right leg with right hand
   Grasp foot with left hand
   Turn foot out
   Send foot up
   Send knee up toward body

2. Stretch hips

Tactile Kinesthetic: Provide many tasks using hands and fingers. Also tumbling, dancing and playing piano. George loves music and will benefit by specific rhythmic movements but his rhythm should be picked up by the teacher. Follow his beat or rhythm.

Language Development - Speech: George needs work on using his lips when he talks. Give time to working in front of mirror with him. Test frequently on comprehension to rule out guessing and parroting.

Spatial Awareness: Needs painting, crayon and clay activities. Also benefit from stick figures. It is difficult to know when George is teasing and when he is working a puzzle incorrectly. He has terrific sense of humor and will do a task wrong and then laugh and do it correctly.

CONCLUDING REMARKS

We are gratified and somewhat amazed at the growth we have witnessed in this, our first year of operation. I believe there is a direct correlation between the rate and nature of growth and the ability and willingness of the staff to become involved in relationships with the children. Methods and techniques are important, but can be very dangerous if they precede knowing the child--his needs, rewards and motivations. I have a strong feeling that when a child and an adult are growing together, something positive will result.

There was a time in our program when a large number of the children seemed to stop growing and, in some cases, even regressed. Although it is not unusual for children to plateau in their growth, we felt it was highly unusual that so many children had ceased to grow simultaneously. In discussing this phenomenon, we concluded we had become experts; that is, we knew what was best for each child but were not necessarily tuned-in to the needs of each child. I guess what I am saying is that, because something works, it does not mean it always will, especially with multi-handicapped children. The teachers are not opposed to pushing a child through an uncomfortable task if continued growth depends upon it.

Most of our children are now mobile; most are toilet trained. For those who are not toilet trained, there is a teacher trained to anticipate their needs.

I believe the value of programs for deaf-blind multi-handicapped children that we have been hearing about and are apparently performing quite similarly can be summed up by the reactions of the parents of our project in Azusa. In a recent evaluation interview with the mothers, one hundred per cent stated that their homes are a more comfortable place to live. Their children are less demanding, can initiate much of their own play activity, and can communicate in ways they never could before.

WEAKNESSES

We feel the need to be more closely aligned to a medical model. Physical and occupational therapist would be a welcome addition to our team. This year, an orthopedic surgeon and an ear-eye specialist took an interest in our program. They examined our children just often enough to convince us that we need more. Continuous vision and hearing testing with educational diagnosis, we believe, would also be quite beneficial.

THE FUTURE

We are currently identifying children between the ages of one and twenty-one who are multi-handicapped and might benefit from an educational program, for the purpose of constructing a building uniquely for these children. We are convinced educational services for deaf-blind multi-handicapped children will be necessary for many years to come.

SAN FRANCISCO'S PROGRAM FOR PRE-SCHOOL RUBELLA DEAF-BLIND CHILDREN

Kathleen M. Caputo, Teacher
San Francisco Unified School District

On September 30, 1968, four pre-school deaf-blind rubella children and a fifth child were enrolled by the San Francisco Unified School District in a new and special program. This program was funded by a federal grant under Title VI. The purpose of my presentation is to describe the program to you as clearly and as simply as possible. I will begin with a brief description of each of the children who are in the program. I will briefly explain the physical set-up of the program such as available personnel and facilities. Finally, I will outline the various goals and objectives of the program and the corresponding teaching and learning approaches which have proven to be most successful.

All of the children in the program are about four and a half years old. They all wear binaural hearing aides and they wear glasses. Their respective hearing losses range from moderate to profound. They were born with cataracts and have congenital heart conditions.

Carolyn has the least amount of vision of all of the children. She has a profound hearing loss. Carolyn is an extremely hyperactive child. At the beginning of the year it was very difficult to contain her in a chair or in any other non-mobile position. Although she is still hyperactive, Carolyn can sit at a table for several minutes and she demonstrates an ability to attend to various learning tasks for a few minutes at a time. Carolyn requires an extremely simple and well-structured atmosphere for any activity. At the present time she truly demonstrates affection towards a few adults, especially her foster mother. In certain situations she will make specific responses to continuous vocalizations for a few seconds. Carolyn has been walking for over a year. She feeds herself with her fingers, with a spoon, and, sometimes, with a fork. She drinks from a cup. She can use a napkin appropriately. Carolyn is not potty-trained but she can push her pants down and pull them up. When Carolyn wants to go home she gets her sweater off the hanger and stands by the outside door. Usually, she stamps her feet.

Peter has a large amount of usable vision. He has a moderate hearing loss. He will often play with his fingers, rubbing them together or twisting his hands into distorted shapes. This typical pattern is sometimes interrupted by periods of upset and tantrums during which he cries, rocks or arches his back, often attempting to injure himself either by hitting his head on the floor or slapping or scratching the side of his face. This latter behavior has occurred at different intervals throughout the year. Happily, it has not occurred for the past several weeks. During this recent time Peter has been walking almost completely without support and his disposition has been cheerful. Peter vocalizes most of the time, and when one imitates his vocalizing sounds he responds by discontinuing his vocalizing. He will look at your mouth closely and he seems to enjoy "listening" to the sounds you make. Peter does not yet appear to be at the imitative level of development. He enjoys simple eye-hand coordination tasks. Peter was feeding himself his favorite foods at the beginning of the year. Now he will feed himself his unfavorite foods and he will drink his milk. He is not toilet trained either, but he also can push his pants down and he can pull them up.

Orlando also has a large amount of usable vision. He has a moderate hearing loss. Orlando was not walking at the start of the year. He is walking now. Unfortunately, Orlando is subject to frequent spells of uncontrollable clutching and tightening movements. He will jerk his arms and legs about and, if he is sitting in your lap or holding onto you in any way, he will pinch and bite. Sometimes he will pinch and bite himself. Often he will scream or cry out. This type of behavior has persisted at different intervals throughout the year. During the past several weeks it has become most intense. At the same time, his light-gazing has become so involved and persistent that it seems to disconnect him completely from his immediate surroundings. During the time that Orlando was not subject to the involved spells I have described above, he made marked improvements in several areas. Please note that the following comments and descriptions are typical of Orlando's developmental and social behavior at these more encouraging times: Orlando has learned to feed himself with a spoon and, at times, with a fork. He drinks from a cup and he can use a napkin.

Orlando has had the most success on the potty at school and he has demonstrated an awareness of the appropriate places for his socks, shoes, pants and shirt. Orlando looks closely at his surroundings and notices any activity around him. He plays with toys and miscellaneous objects in the room in constructive ways. Orlando babbles a great deal. In certain situations he will make specific responses to continuous vocalizations. Orlando laughs when he looks in the mirror. He watches himself as he puts his hands on his head and waves his arms around.

Unfortunately, this has not been a very fruitful year for Angela as she has been absent more than she has been present at school. Angela is not walking. She is receiving physical therapy. She has not had her glasses since January. Until last week she had been without her hearing aids for several weeks as well. When she does wear her hearing aids, it is doubtful that they are being properly adjusted. Very few demands are made upon Angela when she is not at school. We have noticed that in relation to the other children she has made little progress in the areas of self-care, mobility or imitative development.

Randy entered the program on April 4th. He is the sixth child. In the short time he has been in school Randy has been fitted with glasses and binaural hearing aids. Previously he had destroyed any glasses which were prescribed for him. Thus far, he has made no destructive attempts on these glasses. On one occasion, he screamed when I took them off for a moment in order to clean them. After one afternoon, he no longer attempted to remove his first hearing aid. He was fitted with his second hearing aid only a week ago. He has made no attempt to remove this second aid at this time. He discontinued most of his mechanical vocalizations and vocalizes lovely "ooos" and "aahs". Randy walks on his toes on one foot. He has been diagnosed by his orthopedist as having spastic diplegia. He favors his right foot. In about a week he will enter the hospital for a heel-cord lengthening operation. After remaining in a cast for several weeks, it is thought that the operation will remedy his gait. If left unattended, Randy will go off and explore any indoor or outdoor surroundings that he might find himself in. He laughs to himself. He is very explorative in the classroom. He appears to examine toys or objects with curiosity. He recognizes certain familiar objects and demonstrates a working knowledge of their respective uses. When left to himself, Randy will arrange developmental-type toys according to color and/or shape. He generally determines his own frames of reference for arrangement.

Until two weeks before entering school Randy lived with his parents. His parents had had no success in teaching Randy to feed himself most solid foods. His mother related to me that he would object to these foods by forcing himself to vomit or by throwing his plate on the floor or by screaming or a combination of these and other manifestations of rejection. After two weeks of school, Randy was feeding himself regular school lunches with a spoon or with his fingers when it was appropriate. At times we have had a difficult time with certain types of food, but Randy no longer employs vomiting as a means of rejection. Although Randy is reluctant to accept the close physical contact involved in the vocalization and body concept exercises, he has gradually decreased his original intense refusal to cooperate.

The personnel officially assigned to the San Francisco program consisted of one teacher and one aide. Throughout the two semesters various student teachers have been assigned to the class so that there has been sufficient help most of the time. After a very short time, all of us who worked with the children realized that the most successful learning experiences occurred when each child had the full attention of at least one adult. Hopefully, an additional aide will be assigned to the program in the fall.

Carolyn, Peter and Orlando attended the morning session and ate breakfast at school. The morning session ran from 8:45 until 11:15. Angela, Tracey (a non-rubella congenitally blind pre-schooler) and Randy attended the afternoon session and ate lunch at school. The afternoon session ran from 12:15 until 2:45.

The morning children were driven to school by their foster mother. They were brought home on a special school bus. By the end of the year, all the afternoon children were taken to and from school on special school buses. The mothers and foster mother of the children were invited to attend once or twice a week. Parent attendance varied.

When the program was officially accepted in the fall, there was only one small classroom available. Although the classroom was small, and lacked sink or toilet facilities and was acoustically inappropriate, the school itself offered many useful facilities. The school is one for the orthopedically handicapped and, therefore, has extensive built-in devices throughout the building. We had the use of a nearby bathroom and a kitchen. (To avoid endless trips we kept a supply of water in a plastic tub in the classroom each day.) We also had access to a fully equipped gym and a nearby public park. The one outstanding feature of our classroom was that one side opened out onto an enclosed outdoor courtyard. All members of the faculty and staff were most cooperative and helpful. All of the children were observed and examined by the physical therapists and doctors. The therapists readjusted their schedules so that three of the children were able to receive therapy on a regular basis. The therapists were always available to me for any questions about our mobility program and offered many useful and workable suggestions. The speech therapist also was kind enough to offer her services. After observing the children in various classroom and non-classroom situations, she arranged to see those who demonstrated that they might benefit on a regular basis.

The first area of development we have emphasized is the area of self-care. This area includes eating skills, potty-training, dressing and washing activities. The greater part of each session is often devoted to eating.

Our objectives have ranged from having the child accept solid foods to having the child accept a variety of foods and from finger feeding to manipulating a fork. All but one of the children are able to use a spoon and they are learning to use a fork. They are also willing to finger feed certain foods. They are all drinking from a cup. At times, they demonstrate their ability to use a napkin appropriately.

At the beginning of the year only one of the children was truly feeding himself. At times, the most effective approach was a fairly forceful one. Our first steps in manipulating a spoon were very simple. One of us would place the child's hand on the spoon and put his hand over the child's. We would bring the child's hand to the bowl, scoop up some food on the spoon and bring it up to his mouth. All parts of this process were generally grasped fairly readily except for the step of placing the spoon in the bowl to scoop. After repeating this task with assistance countless times, each of the children eventually grasped it. When a child did not grasp the concept of chewing, one of us would put our hands on the child's jaws and move them up and down. We would put the child's hands on our mouth and jaw and let him feel us chewing. This was also repeated countless times.

The morning session has had the most extensive eating experiences. For several weeks their foster mother would bring a different meat dish, a different vegetable or salad and a different fruit or dessert each day for their breakfast meal.

After their meal at school the children are put on the potty. Our success with potty training has varied widely. All but one of the children accepts the potty. If they are dry when they are put on they are given some verbal praise and a toy. If they are wet we tell them "No!" as we show them the wetness and we do not provide them with a toy. Halfway through the session they are placed on the potty again. We try not to leave them on the potty for more than ten minutes.

During these potty experiences we have tried to encourage the children to push their pants down and pull them up. We repeat the appropriate phrases at these times. All but one of the children are able to perform this dressing skill if given sufficient time. Throughout the year we have tried to provide several opportunities for taking different articles of clothing off and on the children, the teacher and a doll.

After the children come off the potty we help them wash their hands. One of the children, Orlando, is able to imitate that activity. We brush their teeth with them as well. All but one of the children will hold the toothbrush for a period of several seconds.

Mobility, like eating, has demanded much of our time and energy. It is obvious to us all, that until a child is walking he is deprived of many learning opportunities. I have mentioned that two of the children walking now were not walking at the beginning of the year. In order to encourage these children to walk we did demand that they remain on their feet as much as possible during the time that they were at school. We discouraged them from crawling around the classroom and we insisted that they walk (with some assistance) from one activity to another, and to and from the bus, and to and from the potty. As I have said, these children were seen by the physical therapists as well. We also encouraged them to ride the tricycle. Again, all but one of the children are able to ride a tricycle unassisted, although it might be only for a very short distance.

The third area of development we have emphasized includes motor and language imitative development. We have attempted to actively employ imitation through language, movement and music exercises. Each day one teacher takes one child at a time out of the room for a simple vocalization exercise. The purpose of the exercise is to elicit vocal responses to the teacher's vocalizations. The method is to hold the child on your lap and bounce, move or rock him as you make different vocalizations. Each bounce or movement is a response to each vocalization. After a few seconds the teacher remains silent and still. She waits for the child to make some response to the vocalization. If he does respond, the teacher rewards him with a bounce. If the child does not respond, the teacher continues the same procedure. This vocalization exercise was initiated just weeks ago. Thus far it has been the most successful approach in this area of beginning imitative speech development.

We have tried to devote this same daily individual attention to body concept development exercises. These exercises occur in front of our very new and beautiful standing mirror. The teacher sits in back of the child, placing the child in front of the mirror. The teacher moves the child in front of the mirror. The teacher moves the child's arms around and says things such as, "Look at Peter!", "There's Peter!", etc. Generally the children have become a bit interested and amused at this brief exercise. A very simple body-identification exercise follows. This exercise consists of the teacher placing the child's hands on his own head and then the teacher's head. As the teacher does this she is saying, "Put your hands on Peter's head", "Put your hands on Kathy's head", "Your head", "My head", etc. This exercise includes all the various parts of the body but never includes more than three parts at a time. A ll but one of the children will accept this exercise. None are able to perform any part of it independently. At the conclusion of this body concept session, the teacher and the child remain in front of the mirror for a few gross movement exercises such as jumping or turning around. Again, the teacher is attempting to elicit an imitative response. The teacher places the child's hand on his body as he jumps and then helps him to jump. Again, we tell the child, "I jump", "Peter jumps", or whatever as we move through this exercise.

To further encourage the children to develop this motor or movement imitation ability we use body concept-movement records, noisemakers and the piano. During the record and piano exercises we try to move and dance about with the children. We are also attempting to develop the children's awareness of sound through these channels as well as simple noisemaker lessons.

The last area of development we have included in our program is learning readiness activities. Our major objectives in presenting and teaching these activities have been simple. The first objectives have been: (1) to have the child sit in a chair, (2) to have the child make eye-contact with the object or objects for one minute, (3) to have the child cooperate physically and demonstrate some clue to his reception of the activity. The last objectives have been: (1) to have the child demonstrate the ability to imitate the activity and (2) to have the child initiate the activity independently. All but one of the children have infrequently demonstrated their mastery of the first three objectives. We are working on the last two.

In this area of learning readiness activities we have employed materials and toys that have been mentioned throughout the week. I am sure there is no need to list these for you.

DEAF-BLIND CHILDREN
IN THE
LOS ANGELES CITY SCHOOLS

Joy Efron, Coordinator
Los Angeles Unified School District
Program for Deaf-Blind Children

As a result of the rubella epidemic of 1964-65, it was decided by the Los Angeles City Schools in spring, 1968, to start a program for deaf-blind children of pre-school age. Accordingly, I was released from my other teaching duties in fall, 1968, to begin setting up the program.

LOCATING THE CHILDREN

The first task was to locate the children. Two surveys had been taken in California the previous spring, one of multi-handicapped blind children and the other of multi-handicapped deaf children. One survey listed 129 deaf-blind children of pre-school age, the other listed over 300 young deaf-blind children. Based on the numbers in the surveys and the population of the Los Angeles area, we expected to have between 40 and 100 children. However, knowing numbers and actually locating children proved to be two quite different things. Due to difficulties with confidentiality, in many cases these surveys were done without regard to parents' names or addresses. In other cases, we were unable to obtain addresses even though they were known, due to great concerns over confidentiality and privacy. Hence, the start of our program was delayed two full months due to the fact that it was necessary to duplicate the surveys in the greater Los Angeles area.

We contacted all agencies dealing with the deaf and the blind in the Los Angeles area. Our greatest source of help came not from professional agencies, but from the Rubella Parents Association. This group of parents was most anxious to share all their information with us. In addition, we received considerable assistance from the pre-school field workers for the blind and the California School for the Blind. I should like to strongly recommend that in the future, if government money is spent to conduct surveys of this type, that all necessary information be made available to school districts and facilities desirous of providing direct services to children.

SCREENING THE CHILDREN

Thinking that we would see between 40 and 100 children and would only be able to accept 9 into the program, we gave serious concern to our screening procedure. We checked with the California School for the Blind, Perkins, John Tracy Clinic and Syracuse University Center for the Development of Blind Children to check their procedures. Each of these agencies screens their children in a different manner. We finally decided to base our decisions on observations in a play situation, discussions with the parents, and the functioning level of the child developmentally. Our screening committee consisted of Mr. Ralph Salaway, supervisor of classes for blind and partially seeing; Mr. Horace Stinson, principal of Lokrantz School; a teacher of pre-school deaf children; a teacher of pre-school orthopedically handicapped children; a school psychologist; a school doctor, and myself. While several people spoke with the parents, one or two teachers worked with the child, trying to interest him in something and observing his reactions closely. All wrote their reactions later and then we discussed as a group.

We approached this with reservations and doubts, since I was the only one of the group who had ever seen a deaf-blind child, and, at that, never as young as pre-school age. The first child was carried in by his mother, barely lifted his head, made no response to sound, and showed no interest toward anything except for some limited visual tracking of a brightly colored disk. The second child walked in, clutching his mother's hand and carrying a little toy car which he held very close to his eyes. He had glasses and hearing aids; he laughed and he smiled. He clung to his mother in a very dependent fashion but was very interested in the toys and objects in the room. We now felt we had something on which to go, a rank, an order of children based on their functioning level. We decided to continue to rank children, comparing their functional levels.

After all of our concerns about the great numbers of children and the difficulties we would face in deciding which children to accept into the program, we ended up locating and seeing only nine children over three years of age. We accepted all nine into the program. One moved before enrollment, and we have thus been operating our class with eight children.

SELECTING THE SCHOOL

The next task was to select a location for the class. Locating in a school for the blind or a school for the deaf were considered, but the decision was finally made to locate the class in a school for orthopedically handicapped children. This decision was made for several reasons:

1. The children classified as deaf-blind have many problems in addition to vision and hearing.
2. The teachers were trained in the areas of visually handicapped and hearing handicapped, but not in orthopedic problems. They could use the staff of the orthopedically handicapped school as resource personnel.
3. Occupational and physical therapy would be available at an OH school as well as a good physical education program of motor development and body image.

The school selected was the Sven Lokrantz School for Orthopedically Handicapped Children, located in Reseda, at the west end of the San Fernando Valley. It is one of ten special schools in the Los Angeles Unified School District. In addition to orthopedically handicapped children, there are seven classes of pre-school deaf children, and many classes of brain-injured, retarded and multiply handicapped children. There is also an annex in which 80 trainable mentally retarded children are served. Children are transported by buses from all over the San Fernando Valley.

Lokrantz is seven years old. It is built in the shape of a donut, with occupational and physical therapy located in what would normally be the hole in the donut. Our classroom was previously used for Corrective Physical Education. Hence, there are many materials and equipment built into the room, such as a full-size mirror, a vertical wall ladder, a horizontal ladder, pulleys, a rope, parallel bars, and stairs. The room is trapezoidal in shape, approximately 25' x 35'. In addition, we have an adjacent fenced-in patio approximately 20 square feet.

MATERIALS

The idea of starting a program in the Los Angeles City Schools was hastily conceived in spring, 1968. It met with immediate approval and enthusiasm by Mr. Salaway, supervisor of blind and partially seeing classes, and by Dr. Ernest Willenberg, Director of Special Education. However, budgets had already been set for the coming year. We were alloted five positions from the current special education budget and exactly $100 for all equipment, supplies, furniture, toys and materials. The attitude of Mr. Stinson, principal of Lokrantz, and the rest of the staff was unbelievably warm, accepting and generous. Furniture was borrowed from other classes in the school. We used our $100 for toys and materials. Other materials were borrowed from the IMC and teachers at Lokrantz generously donated many items. In addition, we received gifts from the Lokrantz parent group, the parents of deaf-blind children, and gifts from interested people in the community (especially after receiving some publicity in local newspapers).

STAFF

Our program is operated in a team teaching fashion, utilizing three teachers and two aides. One teacher has a background in psychology and experience teaching pre-school blind children. The second teacher is a teacher of the deaf who has had some experience with the blind. The third teacher, myself, has a background and experience with the blind and some training in the area of the deaf. Our two aides have worked with retarded and multiply handicapped children. In addition, a physical education teacher works with the class for twenty minutes daily. Two children receive occupational and physical therapy. All other standard school services, such as medical and nursing, are included.

START OF CLASS

The class was begun December 9th with two children. By the end of the week, three more had enrolled. The sixth child enrolled after Christmas vacation, the seventh enrolled three weeks later, and the eighth child enrolled at the beginning of February.

THE CHILDREN

The children range in age from three to eight. Seven of the eight children are victims of maternal rubella. All are legally blind, but none are totally blind. Five children have bilateral congenital cataracts and one child has a congenital cataract in one eye and retrolental fibroplasia in the other eye. One child has bilateral macular degeneration and one child has bilateral colobomas of the disc and choroid. Four children are profoundly deaf, one child is severely deaf, two children are moderately deaf, and one we now suspect of having normal hearing. In addition to deafness and blindness, a multitude of handicaps exist: congenital heart defects (7 children), cerebral palsy (2 children), mental retardation (6 children), neurological handicaps (5 children), emotional disturbances (6 children), orthopedic problems (4 children), poor motor development (7 children), malocclusion (4 children), and a general low level of development resulting in infantile functioning (6 children).

Five of the children reside in the San Fernando Valley, and they are served by the regular school buses which transport children to Lokrantz School. One child lives in East Los Angeles, a distance of 26 miles, and her mother transports her everyday. Her transportation expenses are reimbursed by the state. Two children live outside of our school district but are accepted by a contractual agreement between the districts. One is transported by bus with other children from his district who receive their education at Lokrantz. The other child is transported by taxicab at a cost of $2700 a year, shared between his school district and the state.

Six of our children are living with both parents. One child is living with his mother, who is divorced, and one child is in a foster home. As for education prior to enrollment in our class, two children had been very unsuccessfully enrolled in pre-school classes for the deaf. One had been at a nursery school for youngsters with cerebral palsy. One had been in a child development center for multiply handicapped, retarded children. One had received auditory training; one had attended the California School for the Blind, a private school for the retarded, and a center for auditory training. Two had had no prior education. The parents of three children had received counseling from the pre-school workers for the visually handicapped, and three parents had attended parent group meetings at the John Tracy Clinic. Only one of the three actually followed through with the suggestions she received at the Tracy Clinic, and adapted these suggestions for use with her visually handicapped child.

UNIQUENESS OF OUR PROGRAM

We feel that our program is unique in several respects. For one thing, after listening to all of you speak this week, it appears that we are almost the only program serving deaf-blind children which is doing so without a federal grant. Also, our team teaching approach is different than most conventional programs in that we are all in one big room, with strengths in different disciplines, planning and working together. Each child belongs to all of us. We like the idea of having the child live at home and have very close contact with the parents, which I shall go into in detail later. We have maintained daily observational logs for each child individually and for the program in general. The most unique factor, in my opinion, in the entire program has been one that I briefly touched upon earlier, and that is the attitude of everyone concerned. The complete willingness and ease with which the program was implemented was of note, but the attitude of the principal, staff and parents of Lokrantz School has been overwhelming. They communicated a pride that their school had been selected for this experimental class, and the generosity and sincere interest of all concerned has been phenomenal. I once mentioned how nice it would be if we could have some doll furniture for a housekeeping corner. The next school bulletin had a statement to the effect that someone I did not even know was making doll furniture for us. Thanks to a father of another child in the school, we now have a beautiful toy sink, stove, refrigerator and cupboard. Two ladies in the community who heard about our program decided to use the money they generally spent on Christmas cards to buy toys for our children. The list is endless; we are most grateful to be in such an incomparable setting. To our delight, our classroom was even carpeted in the spring.

STATUS OF CHILDREN AT START

At the start of our program, two children were partially toilet trained; four were fairly independent in feeding and eating skills; none had any speech, language or method of communication. None of the children were socializing; only two had any degree of social awareness. Six children showed no curiosity about their environment and were very withdrawn, each in his own little world. Only two children could manipulate toys and materials to any degree. Five of the children indulged in self-abuse. Motor development was severely retarded in six children. All were functioning at a very low level of development.

PHILOSOPHY AND GOALS

We have endeavored to provide a good, sound, well-rounded pre-school program with materials and activities which would be stimulating to normal children, with special provisions for children with such multiple handicaps. We feel that you cannot push a child beyond his capacity, that he must have the ability, maturation and readiness for a task. However, this must be ascertained by careful judgment. Many of these severely involved children, if left to their own devices, would NEVER be ready. The outside world is big and frightening. There is safety and security for the child by staying wrapped up in himself, rejecting all attempts by an adult to enter into the child's private, safe (and meaningless) world. These children have learned, and learned well, that if they scream loud and long enough, the intruder will usually go away and allow them to retreat back into the safety of doing nothing. Many of these children have actually manipulated the entire family situation. One mother told us in the beginning that sometimes her child slept during the night, other times during the day. When he slept, the rest of the family would try to catch a nap. No demands were placed upon him because he presented such a negative, helpless, pathetic appearance, and had such a healthy set of lungs.

We refuse to be manipulated by the child to the detriment of the child. They don't know what is good for them. They don't know all that the world has to offer. They must be shown. Hopefully, we provide such a stimulating environment that they are eager to explore all of it. Practically, however, they often have to be dragged through the motions. If a child is fearful, we approach him gently. If he screams because he is stubborn, he is permitted to scream, but must still reach out and explore, with firm teacher guidance. Each child is different and must be approached in a different manner. Some children need a firm guiding hand throughout. Others require more of a permissive atmosphere. We are constantly assessing and evaluating. What works? If something works, continue using it. If it does not work, try something else.

We consider social interaction to be a very important goal. The typical pattern of these children is that they are completely separate entities, oblivious to anyone and anything but themselves, sometimes even oblivious to themselves and their own bodies. By having so many children in one room and by providing many group activities, we have strived to make them aware first of themselves, then of each other. We had human pile-ups--piling many children in a box or a wagon, in crowded quarters, so they were forced to bump into each other. They hated this. They screamed. They cried. Now we are seeing the beginnings of actual, meaningful, social interaction, sharing and playing.

When a couple of children reached the point at which they would snatch a toy belonging to another child, we would help the first child assert his rights by helping him retrieve his toy.

We believe that a child develops self-confidence and pride as he learns to take care of his own needs. Self-care skills have been an integral part of our program from its inception. Some of the children appear so helpless, yet are so very capable. We actually had one cab driver quit, because, and I quote, "I cannot stand those horrible teachers." "Not a one of them has a heart.' "They refuse to carry that poor child, making him walk by himself to the classroom." "Not only that, but they make him carry his own diapers."

We have worked quite a bit on reality--cause and effect relationships. The aim is to show that in life certain actions have certain natural consequences. When a child spills his milk, he cleans it up--not as punishment, but to show a natural sequence of events. If a child releases his grasp on a ladder, he falls (with a mat beneath him). This does not mean we are not safety conscious. On the contrary, we are extremely concerned with safety. We strive to make the child aware of danger, aware of the consequences of his own actions, so that he starts to think and to modify his own behavior.

MOTOR DEVELOPMENT

In the area of motor development, we are extremely fortunate in having an excellent physical education teacher work with our children 20 minutes daily. In the beginning, he told us that two of our children were fairly well developed motorically, a third was functioning at about an 18 month level, and the others were functioning at a 12 month level or less. The first two months we worked exclusively on body image on mats--rolling over, sitting up, lying down, standing up, touching parts of the body, working on discrimination between front and back, sides, arms and legs. We put the children on large balls. Most did not realize they should put their hands out front to brace a fall. We worked up a routine through which we put the children. This consisted of the following: log rolls, somersaults, climbing the vertical wall ladder, climbing up and down steps, walking the balance beam, jumping on the trampoline, balancing on the large balls. We also used a rope for swinging, and used a tether ball, suspended from the ceiling by a rope, for catching and throwing. Starting in spring, our physical education program was held out-of-doors. We worked on the jungle gym, the horizontal ladder, the sandbox, and climbing in and through what we call the cheese box (a large structure with openings of different sizes). The same children who squawked at the stairs now go over to them on their own and practice. The same children who screamed on the ladder now climb to the top as their choice of an activity. If we had not insisted that they do these things, they would not have known what existed and what fun it was.

PROGRAM STRUCTURE

The most constant thing about our program has been change... change through experimentation, re-evaluation, assessment, growth, changing needs, new ideas, but always trying and adapting. Since December when our program started, we have changed the structure 12 different times. I will go through a few of these changes to show the evolution of a team teaching approach to working with deaf-blind children, as well as adaptation to changing needs of the children. We began in a very unstructured manner and are now operating in a very highly structured manner. We began in December by allowing the children to explore the room in a free play aituation, have snack time, use play dough, and outdoor activity. There were toys and stimulating materials. To our dismay, free play, for the most part, meant sitting idly, masturbating, staring at light, spinning and flipping objects, and wandering about aimlessly.

We next attempted starting with a group circle activity with body movements, followed by individual work, rhythm, snack, crayons, outside activity, and another circle game. The next step was to set up areas. Each teacher and aide took an area for a week. We set up the four areas of clay, speech, music, and motor development, in a 20-minute block. Each child spent five minutes at each area, after which the light was flickered on and off several times and the children were moved to the next area. We then set up four different areas: art (usually pasting), manipulative, doll corner, and speech, moving the children as with the first set of areas. We soon found that the children could actually stay longer at an area than we thought initially, so we increased the time to 10 minutes per area. We spent 40 minutes with the four areas, followed by snack, outdoor recess, and then the next set of four areas.

As new children enrolled, we felt it would be easier for them to only need to relate to one person in the beginning. So, for the first two or three days a child was in the program, one teacher was assigned to him. She operated primarily at the manipulative area, blocks and doll corner, but would try to move the child from one area to another, staying with him to offer consistency of only one adult. Thus, she also functioned as a floater, helping to move children from one area to the next. At this point, we had three areas in each block of time: first of all, clay, speech, and music; secondly, art, speech, and motor development.

By the middle of January, we felt that we had gone from a very free environment, to one so heavily structured that there was little room for individual choice. Accordingly, we instituted a fourth period, which would be free choice for those children who were capable of choosing an activity. To our disappointment, even our most capable children wandered about aimlessly, so it became the function of the floating teacher to help them to choose and stick with an activity for a few minutes.

Our program at this point was like this: first thing every morning was greeting, toileting and self-care skills, followed by physical education and a group activity, which was generally a circle game, involving bodily movement. We then went to the areas of speech, manipulative, readiness (which differed with each child--from clapping hands and touching, to matching shapes and doing puzzles), and a free choice with the guidance of the teacher who was serving as floater. This was followed by snack, toileting and self-care, and outdoor play. Then came auditory training at the piano, where we worked on awareness of sound and absence of sound. Next, areas were set up again. These were speech, auditory training, art, and a free choice--completely free if the child was capable, directed if he was not.

Things were going pretty smoothly, but we began to feel that each child was functioning on a different level and had different needs. By moving them to the areas, they each had a chance to be exposed to different stimuli. However, some needed more time in one area, and less in another aspect of development. Our snack time was a very harried experience. Imagine, if you will, this situation. Eight children are sitting at the same table for snacks. Two children have now developed some speech sounds which they are required to give in order to receive their milk and crackers. They want their snack, but do not receive it unless they say something. Two children are hyperactive, jumping up from their seats and the table constantly, and are constantly being brought back. One child is snorting, grabbing food, and stuffing it down as if she were starving to death. One child is playing with food. Two children are crying, screaming, and trying to throw the food because eating is a most unappealing activity for them. Something had to be done, and in March we initiated our breakfast program for those children who did not know how to eat. The three children who had feeding problems (drinking from bottles, not biting or chewing, not feeding themselves) started to come to school without having eaten breakfast. They brought their breakfast with them, and after our physical education period, these three children, with one teacher and two aides, would eat their breakfast in a separate little room. The teacher of the deaf and I took the remaining five children to work on more formal, more pre-academic work such as matching, readiness work, and speech. A month later, one of our five children was moved into the breakfast program at the request of her mother. This little girl could eat solid food and feed herself, but her manners were atrocious. Her grabbing of food was accompanied by hyper-ventilation and snorting, grunting sounds. The teacher worked with her on table manners and, since food was so motivating to this child, getting her to communicate her desire to eat by gesture. The change has been incredible. She no longer takes anything without putting her hand on the teacher's face or pointing to the food. She waits until she has permission. She no longer snorts, grabs or gobbles. Of our other children in the breakfast program, they all now drink from a cup or glass which they hold themselves. We have not been at all successful in getting one child to either bite or chew, but the other two children are now biting their food, reluctantly chewing and feeding themselves. One child presented a particularly interesting eating problem. He could feed himself independently with a spoon when he came to us, but would eat only six different foods, none of which required chewing. Force-feeding had been tried unsuccessfully for two years by an occupational therapist. We tried for three months to sneak little bits and pieces of chunky foods into the six baby foods he would eat. We also tried to build up trust so that he would permit us to give him something new. We were completely unsuccessful. An examination by the doctor revealed that his gag reflex and chewing mechanisms were completely normal. Thus, under the theory that no child will starve himself to death, we presented him with only foods which would require some chewing. We had him sit for 30 minutes each day with the food in front of him. Whether he ate or not was to be his choice. The first week we did this for breakfast and his mother gave him his baby food for lunch and dinner. He ate nothing for breakfast except part of a cookie. The second week we continued this at breakfast time, and his mother followed through at lunchtime. Hence, he refused to eat except at dinner time. The third week, he was presented with nothing but foods which required chewing, three meals a day. After three days in which the child ate absolutely nothing, we felt we had failed and must admit defeat. The fourth morning he walked in and ate half a bowl of boiled apple slices. That day for lunch his mother excitedly reported that he ate vegetable soup with all the vegetables and jello with cottage cheese. Progress with him has been sporadic since that time, but is now very definitely looking encouraging.

At the present time, we have three groups of children: three in the breakfast program under the supervision of the two aides; two children learning, to reach out, explore their environment and play, under the supervision of the pre-school teacher; three children in a formal readiness program with the teacher of the deaf and myself, learning to read their names and the names of simple objects, and working intensively on speech. This structure follows the physical education program, which is the first activity of the day. The readiness group and the group which is learning to explore and play have their snacks together. They are generally finished when the breakfast group has finished eating. All go outside for half an hour, where different activities are set up in a free choice setting. When I say free, I mean that the child is free to choose an activity but is not free to sit around doing nothing, indulging in self-stimulation or self-abuse, or fixated with spinning or light gazing. There are tricycles and other wheeled toys, pull toys, an art activity (often painting or water play) and a manipulative table. This outdoor activity is followed by auditory training at the piano, stressing awareness of presence and absence of sound. The children feel the vibrations of the piano and either raise their hands when the music stops, or they shake rhythm instruments while there is music, stopping their accompaniment when the music stops. This is then followed by a variety of areas: speech, doll corner and housekeeping play, art, music with the vibration board and rhythm instruments, and manipulative skills.

The vibration board was made by attaching three Rolen Star speakers to the underside of a piece of plywood, three feet by four feet. These speakers produce large amplitude vibrations in the audible range. Each speaker is capable of utilizing 20-30 watts. For our sound source, we use an old Newcomb Talking Book Machine, the power of which has been increased. Rock and roll music and marches are the most successful records to use in producing good vibrations. The vibrating board is the one piece of equipment which is enjoyed by everyone of the children. In fact, it is so successful that we have problems getting them off and interested in something else. They feel vibrations in all parts of their bodies, shake rhythm instruments, and some even dance.

We also have a very tame, gentle, friendly rabbit who now follows the children about and even occasionally jumps into their laps. The children's reactions toward the rabbit initially was quite indicative of their reactions towards many new things. Two liked the rabbit; one wanted to squeeze him very hard about his neck; one wanted to tip over the cage; one was very frightened; three were completely oblivious, even when the rabbit was placed in their laps. Now the rabbit has five good friends among the children (three actively so) and three children still ignore him.

PARENT EDUCATION

A crucial part of our program has been parent involvement. This has taken two forms: observation and participation in the class, and regular bi-monthly parent education meetings. Each parent spends one morning every two weeks in the class (the full three hours of class time). The purpose of this is not to have an additional unpaid aide in the class, but to actually show the parent something, teach her something, and also to learn from her.

Too often, we in education, overlook what we can learn from parents. We have the children three hours a day; the parents have them 21 hours a day. At noon when the children go home, we have a conference with the mother who was in school that day. This allows for a free exchange of ideas and suggestions. We only had one working mother in the group and did not require her to participate. However, at her request, she took two days off work to participate in the class.

Parent education meetings have been held every other Wednesday evening since the end of February. These meetings have consisted of a one hour program followed by a one hour discussion. Every meeting has had close to 100% attendance--both mothers and fathers, as well as two sets of parents whose deaf-blind children are under age three and are on our waiting list for next year. We sent home a questionnaire to determine the parents' feelings towards the meetings. It was quite interesting that answers were unanimous, with no more than one dissenter for each question. They wanted to meet every other week; they wanted a two hour meeting, with a one hour program and one hour for discussion. They wanted to invite parents of deaf-blind children on our waiting list and interested staff members of Lokrantz School to attend our meetings, but they did not wish to invite parents of other pre-school handicapped children at our school unless a particular topic would be especially relevent to them. Some of the topics included: methods of working with visually handicapped children; explanation of the speech program; discipline, adjustment, and setting limits;

physiology of vision with stress on how our children see; methods of communication with the deaf-blind, supplemented by a film from the American Foundation for the Blind; motor development; and the movie, "Legacy of Anne Sullivan". We feel very strongly that our close relationship with the parents has deeply influenced and enhanced our relationships and effectiveness with the children.

CHANGES IN CHILDREN

Some of the changes we have seen are as follows. There has been great progress in self-care skills. Three children now take complete charge of their toilet needs, including leaving the room when they need to use the bathroom, washing their hands, and returning to the classroom unassisted. Four children are now partially toilet trained, and one has made no progress in this area. Five children are completely independent in eating; three have made progress in learning to feed themselves, and two have begun to chew solid food. Four children remove and hang up wraps independently, and four do this with limited guidance. Five of the children are now making definite efforts at communication, three in a non-verbal manner of gesturing and pointing, and two in a verbal manner. One child has a vocabulary of six words. All the children are socially aware and five of these interact. Three children are extremely curious about their environment and surroundings; three exhibit a substantial degree of curiosity; and two have made limited progress in this respect. Seven children have learned to use toys properly and seek out their favorite play equipment. Self-abuse has been almost entirely eliminated. Great strides have been made in motor development by all eight children--walking, climbing steps, climbing ladders, using parallel bars and balance beams, jumping, somersaults, and general body image.

PLANS FOR FUTURE

Since there is not as yet such an official category as deaf-blind in the State of California, we are being funded for the coming year as experimental classes for deaf pre-school minors, grouped on the basis of visual problems. We will be funded on the basis of three children constituting a class. We have eight children on our waiting list, who have already been screened and who will be three years of age by fall. Four of these children reside within the Los Angeles City Schools District. Four reside in outlying districts with whom we have contractual agreements. Due to the tremendous geographical area served and the attendant transportation problems, we hope to open the second class in another school, in the central or southern portion of the city, with staffing similar to the class at Lokrantz.

This has been a most rewarding year. We look forward to continued progress with the children who have been served this year, and hope to be able to provide service to more children and families in the fall of 1969.

THE PERKINS PROGRAM
FOR
DEAF-BLIND CHILDREN

Rose M. Vivian, Principal*
Dept. for Deaf-Blind Children
Perkins School for the Blind
Watertown, Mass.

In accepting the task of presenting a reasonable description of the program offered at the Department for Deaf-Blind Children at Perkins School for the Blind, I was immediately struck by the intricacies of the task. First, because there are some among you who are intimately familiar with it and second, because there are also among you some who know little and perhaps nothing about it. I am also aware that some of you have merely heard one or a few facets and perhaps wonder how they mesh.

When the Department was established in 1932 by our former Director, Dr. Gabriel Farrell, and under the leadership of Miss Inis B. Hall, it was comprised of Miss Hall and three or four pupils, and an attendant. Academic goals were of primary importance. Social achievements, though important, was of secondary consequence and depended greatly on the amount of extra time and effort teachers were able or willing to devote in fostering the social activities.

Social contacts were also, at that time, used mostly as an incentive for applying the students' language skills with new people at new and varied places, and helping him to be more readily accepted and tolerated by others. True, it was important that the deaf-blind child develop into a social being and "proper ego", but this was incidental to

*With additional comments by Miss Elizabeth Banta and Miss Carol Johnson the importance that educators placed on his impact on society. It had to be impressive through his personal achievement, for it was generally accepted that his behavior would be misunderstood and could be easily alienated. In short, academic goals were of prime importance!

It was as simple as that! But this was not unique in those days, for in reality, education had a far more limited classification.

In the years that followed 1932 and up to 1955, the enrollment rose and fell indicative of the need of the times, but finally it fell to a new low because of a general lack of trained teachers. Immediately following 1955 when Dr. Waterhouse, our present Director, made an important decision to establish a training program for teachers of the deaf-blind, the enrollment once more increased slowly paced by the rate at which we were able to enlarge the teaching staff. Children of varied levels of achievement were accepted as the scope of the meaning of education broadened. Academic attainment remained an important element, but educational theorists were now concerned about the "whole" child.

More of the Children coming for evaluations were, in fact, variations of the type such as Helen Keller who became totally deaf-blind sometime after birth and who were generally otherwise intact. In increasing numbers, these children were not totally deaf-blind and also had additional impairments.

By 1966 Mrs. Gertrude Stenquist and Miss Nan Robbins who not only did the diagnostic evaluations of children but are also involved in research and writing for the Department, presented Dr. Waterhouse with some impressive figures. These statistics were concerned with the children and the startling figures which were commencing to surface about the then recent major German measles epidemic. As we all know, the figures were appalling, and even if only a minute number of these children born with abnormalities were deaf-blind, it was inevitable that the prevailing facilities in the nation would not be sufficient.

Our Director recognized this and became a major influence in focusing the attention of the National Government on the needs of these children. However, he also was instrumental in urging us, who were directly in charge of the Department, to reorganize the classroom structure in preparation for a sharp increase in enrollment in the near future.

At the same time, he heeded the great appeal of researchers and educators to contact these children and their parents at an earlier age. As he wrote in the Perkins publication The Lantern, June 1968, "the pre-school child has hitherto been largely neglected. There have been several reasons for this. Too often we do not learn about a child until he is already five years old. Also, previously, the incidence of deaf-blindness had occurred in scattered areas throughout the country and little personal contact and counseling could be offered due to the great distances. But finding that, as a result of the recent far-reaching Rubella epidemics, it seemed that the time had arrived when a program could become a reality, for there were not a number of affected children in the Boston area".

Dr. Waterhouse promptly acted and he attempted to not only seek accurate statistics of the number of children with auditory and visual dysfunction but also to predict the proportion of the population so effected so that plans could be made to meet the needs of those children and their families.

A new position was established and a Coordinator of Services to Pre-School Deaf-Blind Children was hired in September of 1967. She set up a Register, by States, of those pre-school children with auditory and visual impairments who had come to the attention of Perkins up to that time. She also surveyed the needs of the children in the Boston area after an index of names submitted by hospitals, physicians, agencies, and parents had been compiled. Home visits, agency records and screening questionnaires were used in surveying the needs. Approximately 25 children with multiple handicaps were found within a 30 mile radius of Boston. As a result of the survey a house was remodelled to be used as a nursery school at Perkins. The first group of children were enrolled in February 1968. They attended for two days per week for 3 hours each session. The teacher-pupil ratio was set at 1:2. The children selected were mobile and at least to some slight degree, aware of their environment. The objectives were:

- to provide an environment in which the child can become increasingly aware of people and objects in his world through planned, meaningful play activities which develop communication, visual, auditory, gross motor, manual and social skills.

- to involve parents in the pre-school program in such a way that they would better accept and understand their handicapped child, his growth and development, and will learn ways to stimulate him through providing positive, meaningful experiences (appropriate to his level of development).

Parents were invited into the classroom to observe and to work directly with the children. They also met twice per week and were encouraged to discuss questions or thoughts which were important to them.

In the four months in which we were in operation during the Spring of 1968, we learned a great deal and made some changes in our approach. Rather than spend time on things that have already been changed, I will try to describe the program as it functioned this year and to mention a few of the changes already in mind for next year.

We worked with 15 children this year, all of whom were Rubella, and chose to have the children scheduled in two hour sessions for individual teaching. These sessions varied in number from 1 to 4 per week according to their ability to attend and to profit from a classroom situation.

It was decided that an individual approach would be better due to the wide variation in handicaps and low level of development among the children. Many children of 3 to 5 years chronologically were functioning at below 2½ years mentally. With a 1:1 ratio, obviously we were also able to be more appropriate in our work with the child since we could individualize his program.

The individual appointment allows our staff the freedom to move out of the classroom with such young children and into the home or community to work on whatever is important for that child at that time. It also allows the staff to see the child in the hospital during their frequent hospitalizations or to accompany the family for testing, and medical appointments.

We were concerned about the whole child but worked with him according to the priorities which seemed indicated in his case.

Teachers engaged in a variety of play activities with the children which were selected to provide opportunities for them to develop skills appropriate to their level of functioning.

We feel that our greatest contribution can be in the area of developing the use of residual hearing and vision and in the area of non-verbal communication.

Skills practiced at the nursery school are important time spent but are not intended to be the end experience for the child.

Even more important is the time required to help the parents (the greatest resource and most appropriate person to keep the child during these pre-school years) to better learn how to cope with him through their own envolvment, accompanied by our support.

We feel very strongly that the parents should attend with their child in order to increase their involvement. This philosophy has led us to support taxi fare for those parents who are unable to provide their own transportation.

The parent involvement has also changed this year. We found that the parents had such varied backgrounds that it was difficult to communicate recommendations in child care without also giving the parents much more information than they had been able to receive prior to this time. Therefore, the weekly parent group sessions were given some structure. To be more specific, the discussions were set up to follow this outline for content:

- what does it mean to have a handicapped child - to the parents, siblings, relatives, friends and to the child himself?

- what do terms such as: brain damage and mental retardation mean and what implications do they have on the case of Rubella children?

- what is known about Rubella and its effects and what is being done to put an end to the possibility of contracting the virus?

- what is the basic anatomy and physiology of the normal ear, eye, and heart?

- what are the impairments specific to the Rubella child?

- how are vision and hearing tests done and how should the results be interpreted?

- how might it feel to have specific impairments?

- what observations have the parents made of normal growth and development?

  i.e. what is an infant, a 1-year-old and a 2-year-old child like? More specifically, what happens in the normal sequence of various facets of a child's growth and development and how does their handicapped child fit into these sequences?

- what are the effects of hospitalizations and residential placements?

How might the parents be more helpful to the child in his own home, keeping in mind his impairments? For example, how do they better communicate with their child, assist him with self-help skills, teach him to use his residual vision and hearing.

- What is a realistic educational prognosis for specific children?

Where might programs be found and what is currently being planned for children for whom no program seems to exist?

It seemed important to increase parents' acceptance and understanding of their handicapped child, to assist them to become more appropriate in child care and to help them to become more realistic in their plans for future educational placement. To supplement the parent group sessions, we also involved the parents in the following:

> discussions, films, normal nursery school observation, speakers, directed reading, contact with visiting parents and professional personnel, direct involvement with their own children in the nursery school teaching situation, annual two-day evaluation with a conference to discuss their child's level of growth and development, teacher-coordinator-parent conference, individual counseling, home visits, field trips, and an open house for relatives and friends

It is the feeling of our staff that these parents continue to need the group contact but could, this coming year, profit by a shift to more time actually being involved in the teaching situation itself. Certainly, we are seeing them better able to understand recommendations and, therefore, more apt to follow through effectively at home.

From the initial contact with parents we have led them to believe that the nursery school would only provide services to them and their child for a limited time - that children would not be expected to stay in the program indefinitely, but would eventually be placed in long-range programs set up to either train or educate their child. At this time 8 children of the 18 who have been involved in the pre-school have been directed into other programs: two into the Deaf-Blind Department, three into a state institution, one into a class for pre-school deaf children, and two into a day program for retarded children. The transition has been made gradual, with support and guidance given to the parents. There is contact between pre-school teachers and the personnel involved with the children in their new programs. With some of the remaining children there is an attempt to supplement nursery school time with some hours in pre-school programs for the retarded, as we feel that these services will be the appropriate ones to have the future responsibility for the children. We anticipate giving help to personnel in these programs for the retarded conceiving the special needs of the deaf-blind in the areas of communication, and development of the use of residual hearing and vision.

There has been an attempt to collect data directly related to the child but none of this data has been compiled in any organized way, as yet.

Some of the data includes:

- a complete record for each child including all available reports from the time of the mother's pregnancy until the present.
- video tapes of each child once per year set up to show his general behavior in play and communication at that time.
- screening questionnaires and program evaluation forms completed by the parents.
- photographs, slides, films.
- voice tapes.
- periodic evaluation reports.
- teacher anecdotal records.
- teacher progress reports and recommendations to parents.

In addition, to the data mentioned above, we are in the process of developing some materials for the teachers' use. They have evolved from group thinking on the part of the nursery school staff. The first two areas of interest were auditory training and non-verbal communication. They briefly review stages of development and make suggestions to the teacher related to teaching possibilities.

All of our teachers have had prior experience teaching deaf-blind children; however, their previous education has varied a great deal. Since teachers prepared specifically to work with the deaf-blind pre-school child do not exist, and since we have a need to retain certified teachers of the deaf-blind in our Deaf-Blind Department, we have given some thought to the teacher qualities and qualifications which seem important to consider in recruiting new staff. They include:

> their understanding of normal growth and development, especially language development; their ability to be energetic, accepting, creative, adaptable and self-directing; their interest in working with young children in whom progress is slow; and their maturity which would allow for positive parent contact

In-service training and close supervision then, take on a real importance. Our head teacher is a graduate of the Perkins Deaf-Blind Teacher Training Course, and given the direct supervision that is necessary. In-service training has been provided through attendance at professional conferences, staff meetings, discussions with visiting consultants, visits to agencies, planned observations, and discussions with many visitors.

The teacher-trainees have been scheduled to observe and a few have selected the opportunity to do practice teaching in the pre-school. It is expected that we will also be able to include several lectures on the needs of the pre-school deaf-blind child and his parents in the training course given to our trainees this coming year.

The opportunity to communicate the needs of these young deaf-blind children has presented itself in many ways. They include staff involvement in medical clinic examinations and educational facility evaluation, the Rubella Parents Association, cooperative planning with other agencies which are involved in working with the same families, reporting to appropriate state agencies, and speaking to groups of interested professional persons.

I have been speaking about the assistance given to parents whose children are enrolled in the nursery school program. However, some of the children identified during and since the survey have been of a mental or chronological age too young to be entered into the nursery school. For these parents, evening parent group sessions have been offered. Three series of sessions, one evening per week for 5 to 6 consecutive weeks were held between last spring and the present. Parents had the opportunity to become acquainted with and gain support from other parents as well as to discuss topics of their own choosing.

The pre-school services obviously also extend to children outside the area of a 30 mile radius. We have continued to encourage and actively participate in personal correspondence with approximately 200 families, who are at a greater distance. This correspondence is related to educational evaluation as well as specific problems in training the child at home.

Evaluations have continued to have the dual purpose of parent counseling and educational diagnosis.

The preparations for the pre-school evaluation sessions are made by Elizabeth Banta. When requests for a child assessment is received they are referred to her, and she, in turn, sends a Screening Questionnaire to be filled out by the parents. She maintains the contact by setting a suitable date and makes the living arrangements while they are at school. Both parents are encouraged to come and a social worker or similar professional worker is also desired to accompany them.

The child comes for 2 days. While Nan Robbins and Gertrude Stenquist are working with the child, Miss Banta spends her time with the parents. She interviews them, and as they observe the child as he is being evaluated, she interprets what is happening in the evaluation in relation to the child's reactions and general behavior. She tries to help them understand what the levels of functioning are.

At the end of the evaluation, she participates in the final conference with the parents.

In the near future as with all the children who come for evaluation sessions, several families will be invited to Perkins for a week and it will be requested that a professional representative from their local area accompany them. This change will open additional counseling and teaching possibilities.

Much time is spent with many visitors in sharing ideas related to the nature and needs of pre-school visually and auditorily handicapped children and their families. In the event that the Regional Center is established, we would anticipate that our responsibility to other professional people would increase.

Pre-school children will enter a variety of educational and training programs. Any knowledge that is available related to children with whom we have worked is made available to those who will subsequently be working with them.

One of the greatest problems with which the nation seems to be faced is lack of facilities for the children who are not educable but who could profit from training in self-help and communication skills.

The broadest area in our total program is devoted to the education of children commencing at about 5 years of age. We serve them until they no longer demonstrate that they can profit from any service we can offer them. Some may remain until they complete high school or even post graduate work in preparation for college. Some, in fact, most of the students remain long enough to attain skills which commensurate with their individual capacity.

Fundamental bases for learning in the curriculum are the acquisition of language and the appropriate use of it, through some means of communication, training for social competence, promotion of potential intellectual behavior, the attainment of skills both for self occupation and for contribution toward financial support and/or participation in home and community life.

The specific goals are based and adapted to the needs and capacity of the individual student with consideration for his sensori-deprivation and additional impairments.

Before proceeding further with the contents of our program, a diagram denoting our classroom structures as it is now may be helpful.

H.T.	H.T.	H.T.	H.T.
A-Boy	A-Girl	A-Boy	D-Girl
B-Girl	B-Girl	B-Girl	E-Boy
C-Boy	C-Girl	C-Girl	
D-Boy	D-Girl		
2 Assistant Teachers		2 Assistant Teachers	
Age Range: 12/11 - 16/11		Age Range: 4/9 - 8/4	

H.T.
A-Girl
B-Girl
C-Boy

H.T.
A-Boy
B-Girl
C-Girl

2 Assistant Teachers
Age Range: 12/1 - 16/6

H.T.
A-Boy
B-Girl

H.T.
C-Girl
D-Girl

2 Assistant Teachers
Age Range: 9/4 - 16/3

H.T.
A-Boy
B-Girl
C-Boy

H.T.
A-Boy
B-Girl
C-Boy

2 Assistant Teachers
Age Range: 9/4 - 12/5

H.T.
A-Girl
B-Boy

1 Assistant Teacher
Age Range: 8/4 - 8/6

H.T.
A-Boy
B-Boy

C-Boy

1 Assistant Teacher
Age Range: 7/11 - 14/2

H.T.
A-Girl
B-Boy

1 Assistant Teacher
Age Range: 7/0 - 8/6

As many of you know, our Department, since its inception, had in each classroom one trained teacher and two children. In this way each child was provided the ultimate in adult attention and a program individually tailored to his needs. Many Departments in the world have been modelled from this same mold.

q I stated earlier that Dr. Waterhouse urged us to reformulate our thinking and devise a way to make greater and more effective use of our trained teachers by supplying assistants, so that we could be better prepared to accept an anticipated growth in enrollment. There were other facets to this change in structure: namely, diminish teacher isolation, encourage socialization and competition for the children, and, not incidentially, perhaps provide a source of future teachers from the number of teacher assistants who might be attracted to the field of special education.

You can observe from the diagram the variations of groupings and the number of Head Teachers and Assistant Teachers. Those children who cannot yet display conforming behavior, or who indicate very high distractibility, are contained in very small units. Another group is chronologically and socially related, though half the group are hard of hearing and use speech for communication, and the other half communicate manually. The basic academic skills are taught individually by the Head Teacher then further reinforced by her Assistant Teacher, but they are involved in group work for hand crafts, field trips, games, motor training, physical education and other social type experiences. Similar characteristic notations can be made concerning the other groups, but one important element remains - a very high adult-child ratio to maintain our historical and current belief that these children require individual teaching to achieve their full potential.

This has not been a static arrangement. Changes are constantly taking place as we search for suitable adjustments to supply maximum use of staff.

The Assistant Teacher has been a particularly good asset to the total picture. Originally, we looked for applicants who had one or two years beyond the high school diploma. But we were pleasantly surprised by the number of college graduates who applied for this position. All of them were undecided about their ultimate field of endeavor and were willing to spend a year working in the Department in close association with children as a means of finding out if this was the profession they wanted to pursue.

In September, 1968, sixteen Assistant Teachers were hired. Of that number, eight had Bachelor Degrees. Three of them applied and were accepted into our programs for Teachers in Training for next year. The role of the Assistant Teacher is, in fact, an extension of the Head Teacher and one of the connecting links between the classroom and cottage, and classroom and outside classes. Her day extends one hour longer than the classroom schedule. This extra time is spent with the children on the playground or in extra curricular activities, dependent upon the age and functioning level of the children in her charge. This arrangement is under serious discussion presently. There is a general feeling it is not as effective as we had hoped it to be.

We should give some attention to what we ask of the teacher, today, for she is the pivotal point in any educational program. There are many abstract and concrete pressures placed upon her. She is expected to teach expertly all facets of communication skills, to have a clear understanding of linguistic theory and apply it to her teaching, to keep records and anecdotal notes relative to the child's development, to evaluate competing philosophies and methods of teaching and to align herself with a particular set suitable for her children, to know primary and elementary subject matter - adopting and adapting the most recent trends in these areas, to incorporate media in her teaching, to assess her students on an immediate and longitudinal continium, to use the principles of diagnostic teaching to minimize learning problems, to cope with a wide range of hearing and vision loss and any additional impairments in her children, and the very important role of critique teacher for the practicing teacher in training. Placing the Assistant Teachers into the picture seems expedient at this time not only to service more children, or to help cope with the daily mechanical chores, but also to furnish the teacher with the professional status due to anyone who has such a complexity of teaching tasks.

To further alleviate her work in a variety of ways, Perkins has a Supervising Teacher and a non-teaching staff member to handle audio-visual equipment. Throughout the week she is provided with periods when she can be free of children or may choose to have one child for special work. These are the periods when the Assistant Teachers accompany the children to outside classes.

I would like to revert, for a moment, to my reference to the Head Teacher's role as Critique Teacher in our Teacher Training Program. In the practicum period she works very closely with the Student Teacher who needs a clear and realistic view of the children's needs. To better prepare the Student Teacher for the complex children of today, we, who are responsible for the Teacher Training Program feel very strongly that we must take a close look at the Course as it stands now and make some necessary adjustments.

The emphasis has been, heretofore, on the traditional subject matter for teachers training for the Deaf or for the Blind. Our children, now, are not just blind and deaf and put together plain and simple. We have an audiotorily and visually handicapped child with additional impairments.

It is a breed unto itself and presents a new psychological study. Consequently, we are preparing to make changes in our program and shift emphasis in new areas. These new adjustments have not been concretized yet, but we hope to get the wheels moving by September.

Another aspect of our program, equally important as Academic Skills, is the emphasis we place on training for social competence as you will note on diagram (2). It is initiated immediately upon the child's enrollment by providing experiences which help him become aware of himself and his relationship to his environment. He is at first placed in a cottage with only other deaf-blind children until he is ready to conform. It continues when he is first integrated with other children in the cottage and later when he enters into Upper School social responsibilities. He is helped along this route by the meshing of the combined concerns and efforts of the Teachers, Assistant Teachers, Attendants, Housemothers and the staff in the main school. All these steps are guided, through group and individual meetings, on a rather systematic development approach and moderated by the Assistant Director, Principal, Assistant Principal, Supervising Teacher, and our school-cottage liaison, Mrs. Stenquist. At weekly meetings, major behavior problems are discussed and some in-service lectures are given to help the attendants to understand the forces behind the behavior and suggested approaches for handling the problems. Plans have already been initiated to offer in-service training courses to the dormitory personnel next year.

This emphasis on social integration is further augmented by:
1) scheduled classroom observation periods by the attendants and house-

mothers and 2) the hour beyond the school day schedule when the assistant teachers help the children in their charge effectively participate in playground activities and social games. Here, we feel, is an added incentive for the children to utilize their communication skills, experience competition, and learn to share and enjoy the other children in the cottage. Though, some reamin, at first, on the fringe of activities, the additional help from the assistant teachers, provides the high adult-child ratio needed to minimize the possibility of status-quo for these children.

Diagram II

Department for Deaf-Blind Children
Perkins School for the Blind

Director
Assistant Director
Principal
Assistant Principal
Evaluation Team
Pre-School Coordinator
Audio-Visual Equipment Coordinator

Head Teacher   Cottage Personnel   Teachers in Training
Assistant Teachers

Areas of Integration and Interaction:

- Cottage
- Playground
- Class - Academic
    - Industrial Arts
    - Physical Education
- Extra Curricular Activities
- Intra-Mural Competitive Activities
- Activities for Social Competence
    - On Campus
    - Off Campus

As part of the academic and social development, I would like to list the areas which I feel should be covered in the readiness program. One may call them all learning skills. Some skills are based on the learning of other skills and some are intertwined, each in its own way is important in building a good solid foundation for future learning. For some children, some of these skills need a great deal of emphasis. For some other children, some of the skills can be skipped over lightly because they are already well aware of them.

- Initial language and communication development skills.
- Sense Training.
- A full experiential program personally involving the child.
- Awareness and use of vision and hearing.
- Vibration.
- Rhythm recitations - finger and body games and movement.
- Activities for perceptual development.
- Motor activities - specific and, more important, as they occur in experiential activities.
- Body image.
- Awareness of immediate environment.
- Awareness of peers.
- Awareness of adults within the environment.
- Anticipation of routine experiences.
- Rhythm experiences.
- Building and development of imagination.
    - Toy size home environment.
    - Toys for play.
    - Dress up.
    - Acting out.
- Awareness of scientific discovery.
    - Weather.
    - Calendar.
    - Cause and effect of temperature changes.
    - Nature.
    - Time.
- Creative stimulation.
    - Clay.
    - Mud.
    - Painting.
    - Sketching.
- Self-Care
- Development of "Self-skills".
    - Sense of responsibility.
    - Interpersonal compatibility.
    - Competition.
    - Observation.
    - Attention span.
    - Ego building.

One other function for all of us in the Department is the child's relationship to his family, though, the systematic scheduled contact is maintained by the teacher. Distance has always been a matter of consideration, and personal contact has rarely been as frequent as desired. To overcome this, a monthly letter is sent home to the parents by the teacher. The contents generally describe classroom activities, some of the new learned skills, and suggestions are interjected regularly to help the family to favorably view the child as he functions in his home life. The parents are encouraged to write often, and to visit, if possible, for conferences with the staff and to observe the child in the school environment.

Our children, when they are ready, are intergrated in the extra curricular program in the School for the Blind. It is directed by the Social Program Coordinator and embodies extremely varied kinds of events on and off campus. They include Scouts, Church Socials, Cottage Parties, Sugaring Off, Boat Rides, and others too numerous to mention.

At mid-year and at the terminal of the school year, a detailed report is sent home and to the sponsoring agency or agencies.

A few students are capable of completing the full high school program in the School for the Blind. Each student who reaches a seventh grade reading level, is provided with an Assistant Teacher and is fully integrated into the main body of the school.

The Assistant Teacher, or tutor, acts as an interpreter and communicates the classwork manually, and supplements the classwork content during study periods, when necessary. In this way, the student can participate in class discussions, and fulfills the course requirements. Up to this time, students who have been in this category were sensorily deprived after they had acquired basic language.

A fully integrated program is provided for developing and promoting an interest in handcrafts to give vent for creative expression and to furnish the students with pre-rehabilitation skills when they leave us. They are then encouraged to enroll in the Anne Sullivan Macy Services for the Deaf-Blind at the Industrial Home for the Blind. It provides services directly to deaf-blind persons including specialized rehabilitation and social training, vocational counseling, and placement in work programs in their home community whenever possible. We classify these students as academic and minimally educable. The academic group can progress through the intermediate grades and can usually contribute to their own support. The minimally educable acquire a basic language system but academic achievement is very limited. They can contribute toward their own support to a much lesser degree.

A more detailed account of our attempt at classification for determining long-range goals can be found in our publication, "The Deaf-Blind 'Rubella' Child" by Nan Robbins and Gertrude Stenquist. This may be the appropriate time to also mention that printed copies of the criterion set for enrollment in our Department are available at this Conference. These were also written by the same members of our staff.

We should hope that our students would be capable of learning speech as a communication skill. It is well known that this has always been our goal for those who can, utilize visual, auditory and tactual input.

However, the children with additional acute impairments present quite another picture. With these children, the mode for communication is not of primr importance but rather that they achieve a skill in some form of communication which best promotes an acquisition of symbolic language and provide them with an outlet for expression. Our approaches for language development has practically become ecclectic in nature. We modify new and traditional methods to suit each child's needs.

We are concerned with the total development of the child. We pursue within our school program, as one of our goals, to integrate him within his environment to the fullest extent of his potential. We seek to help him to become more active, more independent, and more self-aware, so that he can profit from the innumerable real experiences which is the basis of our program. The input gained from his personal action in these experiences hopefully result, by whatever means within his capacity, in natural expressions of his feelings, his wants, and hopes.

This, in not so few words, is an attempt to familiarize you with our program as it is today. Some changes have occurred, and we anticipate more changes to keep abreast with current pedagogical and educational thought.

Additional Comments

Developmental Curriculum for Pre-School Deaf-Blind Children

Miss Elizabeth Banta:

Mrs. Vivian described to you the Perkins Pre-School Program which includes not only children and their families who are living in the Boston area but also children from all over the United States.

Since the purpose of this conference is to gather suggestions and recommendations which might make it possible to lay the ground work for a developmental curriculum for pre-school deaf-blind children, and since Mrs. Vivian has presented an overview of our total pre-school program, we felt that it would be appropriate to spend some additional time discussing our nursery school curriculum. We have already stated that the teachers engage in a variety of play activities with individual children. These activities are selected to provide opportunities for them to develop many skills appropriate to their level of functioning.

This necessitates a continuous evaluation of each child in order to set up an appropriate individualized program for him, according to the various areas which need emphasis at that time. Some areas of development which are considered are: use of residual vision and hearing, gross movement, manipulation and grasp, communication, vocalization and speech, social response, self-care, representational play, and emotional expression. Parent involvement in the child's program has already been covered.

Keeping in mind that this is Thursday and that you have been sitting for a long time, and the fact that the children you have described during the week are very much like many of our children, we chose three areas of major concern to all of us, rather than try to discuss our total curriculum. These areas are: play, communication (particularly non-verbal), and auditory training. The reason for selecting these areas is that, of all the problems in learning that the multiply-handicapped child with visual and auditory impairments presents, these three seem to be among the most critical in determining what he will eventually become. The categories are artificial ones, and as we discuss an activity the child is engaged in at one particular moment, it may include all three of these categories and more.

All children grow and develop gradually in logical, explainable, and expected sequences. This is very useful in determining what the teacher can do to be helpful to a child at a particular stage of his development. It is on this assumption - that growth and development are sequential - that we have based our nursery school program and our comments for today.

I have asked Carol Johnson, the Head Teacher in our nursery school, to express some of our thinking related to these three areas of concern. I intend to interrupt her while she speaks and invite you to do the same, should you have questions or comments.

Miss Carol Johnson:

I'll start first with the area of play. The mental age at which the majority of our pre-school children are functioning is below that at which normal children would be asked to sit at a table and attend to school lessons. Normal children at those ages (8 months to 24 months) are learning constantly through their play. Therefore, we think of our teaching as play with the children - giving them opportunities to be involved in play activities designed to develop concepts of size, space, and distance, of their own bodies and what they can do, of how their actions can bring about changes in their environment, and most important, of how they can communicate and interact with people. Through their play they are also developing gross and fine motor skills.

For the few children who are functioning at and above the 24 month level, we do some beginning work in formal lessons - in matching, sorting, and color discrimination.

If we were to let the children come into the classroom and play alone, choosing their own activities, the more advanced ones would play in constructive ways that lead to learning. So we play with the children. We don't really feel we can teach them to play, but only provide the situations in which they can get new ideas for ways to play and to explore the environment. In all our play we try to involve as much communication as possible between teacher and child. This communication is non-verbal with most of the children.

We play a lot with put-together toys, with the goal being not so much the ability to put a particular toy together, but to develop concepts of size and shape, and better finger and hand dexterity.

Blowing bubbles is a fun activity for many children. It is a good opportunity for helping the slowest children to learn that, after the bubbles have gone, the teacher will make it happen again. When they can realize this, they may begin to show the teacher that they want it to happen again, by pulling on her arm, pulling at the bubble pipe, etc.

Activities for motor development provide opportunities for communication, and for learning body concept and ideas about space and distance. We use the large equipment in the classroom, the playground equipment, and the natural outdoor environment for this learning. Simple gestures are often used to signal that the teacher and child will do some activity that he loves, such as running together, swinging, sliding, and climbing. Some children need to learn to trust themselves off the ground, as on the swing or rocking horse.

We do a lot of make-believe play with the children who are at this level; the others are not capable of it now. We play with dolls, dress-up clothes, dishes, blankets, and picture books. Communication is an important part of this play.

We want the children to notice each other, and to learn to play together. But we don't stress this, as most of the children need to learn to play first with the teacher. Few are ready for play with another child.

Most of the child's time is play with the teacher, but we also recognize that our goal is for the child to engage in spontaneous, constructive play. We try to be flexible enough to allow any free play that is of value to learning, and to interrupt when the child is just engaging in repetitive, self-stimulating behavior. When children first arrive each day, they can enter the classroom and play alone until more formal teaching begins. It is in this informal play time that we have seen changes in some children; their play has become more normal and worthwhile. Some children who had been engaging in their "bad habits" whenever left alone, now play more meaningfully with the toys.

Throughout the teaching time we try to be sensitive to the child's own initiative, to let him show what he can do with a toy or activity. When this is good, we let him lead. If it is not worthwhile, we try to shift his behavior. Sometimes lesson plans are discarded when a child becomes involved in a worthwhile play activity of his own choice; then the teacher joins him in his play.

The second area is communication. We do not really think of communication as a separate category of teaching for any of our children; it occurs whenever possible in all activities. We try to make it our main focus underlying the activities that are designed to develop other skills. When children are functioning at an 18 to 24 month level and above, we begin doing more formal training in communication, through gestures, fingerspelling, or speech.

To develop simple non-verbal communication in the slower children, we first try to find an activity that a child enjoys - an action toy, some physical play, the swing, running, etc. - then we repeat it often, so he can recognize that after it has stopped, it can happen again. For the child who does anticipate this, we delay briefly, waiting for him to do something to ask the teacher to repeat the activity. He may pull on the teacher, reach for her hand, shake the toy, put himself in the right position for the activity, etc. We respond to any attempts at communication like these.

For the child who is consistently attempting to communicate in these ways, we introduce a gesture. The simplest are clapping, tapping on the object, tapping on the table, or swinging arms. We make the gesture with the child's hands, and then do the activity, with a close association in time between the gesture and activity. After many repetitions, we begin to withdraw some help - for example, if the gesture is clapping, the teacher would put the child's hands in position, and wait to see if he will clap alone. The goal is for him to make the gesture by himself, when he wants the activity, without any help from the teacher.

We do beginning lessons in imitation of simple motor patterns, as preparation for imitation of gestures.

One of our boys has learned to tap on the side of the wagon to indicate that he wants to be pulled. When he first learned to do this, he would make the sign any time, whether there was a teacher near him or not, as if it were a magic formula that would make the wagon go. When this didn't work, he realized that he must go get a teacher and make the sign to her. Communication must be between two people to be meaningful.

For the child who is using gestures well, expressively and receptively, we begin more formal training in speech or fingerspelling. Gestures are used with nearly all children as the simplest way to establish communication. Either speech or fingerspelling may take a long period of training before being a useful way to express or receive ideas; we feel that the child needs a simpler communication system for use during this period.

We have started teaching fingerspelling to one child who is profoundly deaf, blind, and very poor and uncooperative in speech imitation. We feel that fingerspelling is a more realistic goal for her than speech, at this time. Two other children are having formal speech lessons; they have useful hearing and can make good attempts at speech imitation. There are several other children who have some hearing for speech, who are functioning at lower levels. We talk to these children along with all their activities, in simple language related to what they are doing.

You might be interested in the communication level of the 15 children in our pre-school this year. Two are imitating speech sounds and learning words; one is learning fingerspelling. Five are learning to use gestures for communication. Three are at the "push and pull" stage - communicating their desires non-verbally by pulling on the teacher, leading her to what they want, etc.; three are just beginning to make vague attempts at this. One only cries or laughs in response to stimulation.

I have particularly stressed non-verbal communication in my discussion and feel it is important. However, we do use speech with children for whom we feel it is appropriate.

In auditory training, for the children who are at the lowest level of development in their use of their residual hearing, we try to provide opportunities for them to notice sounds, to begin to be interested in sounds, to focus their attention on sound and find pleasure in it. We play a lot with noisemakers, as you all do. We want to give these children many experiences with sound, without requiring them to learn any particular response.

Our teachers try to get the children to wear earphones. If they resist, we put the earphones on briefly, and take them off before the children can remove them.

One of our boys has been allowed to listen passively to music for a few sessions; now he is being asked to stand up at the record player when the music stops, and to sit down again when it starts. In another lesson he is also being asked to listen for a noisemaker, and when he hears, to put a ring on the color cone. This is to help prepare him for a formal hearing test.

Children who are able to do these previous lessons then are asked to begin to discriminate between two or more sounds. Noisemakers are used, with the child imitating the sound he hears. We may also teach him to respond to two different types of music with two different physical movements.

Miss Banta:

Both the teachers and the parent counselor help the parents to observe and understand what their children are doing in play, communication, and auditory training. They talk together about how the parents can make use of the home environment for opportuniti4s for play and noticing sounds. Parents are helped to think about what communication is and to recognize the child's attempts at expressive communication. They are shown ways that they can communicate simply to their children.

IMPLICATIONS OF LOW VISION IN LEARNING

Tom Kellis
Teacher of Visually Handicapped
Berkeley Unified School District

In a discussion of current thought about the processes of vision Ulric Neisser has stated that the common conception of the visual process, in its focus on the analogy between eye and camera, carries some unfortunate implications for the study of vision. He deplores the fact that image theory has dominated philosophy and psychology for many years, explaining that neither perception nor memory is a copying process. He points out "that there is a new retinal image every few hundred milliseconds. ...Far from being a copy of the retinal display, the visual world is somehow constructed on the basis of information taken in during many different fixations."[1]

..."the reaction of the nervous system to stimulation by light is far from passive. The eye and brain do not act as a camera or a recording instrument. Neither in perceiving nor in remembering is there any enduring copy of the optical input. In perceiving, complex patterns are extracted from that input and fed into the constructive processes of vision, so that the movements and the inner experiences of the perceiver are usually in good correspondence with his environment. ...Although the eyes have been called the windows of the soul, they are not so much peepholes as entry ports, supplying raw material for the constructive activity of the visual system."[2]

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[1] Neisser, Ulrie, "The Processes of Vision." Scientific American, p. 206.

[2] Neisser, ibid. p. 214.

To me, there is an important implication in this viewpoint. If the eye is considered as an entry port, no matter how small or inefficient the port is and if given ample time and access to stimuli, enough information can be processed to make a perception that will have a relatively "good correspondence with the environment."

This is a simplistic analogy but it does seem to be consistent with what I observe in the behavior of the low vision children with whom I work. If given enough time and access to the optical stimuli, the quality of their perception seems to approach that of their fully sighted peers. Access here means the whole battery of optical aids: near vision (allowing them to examine at their optimal near distance), magnification, optimum illumination, complimentary tactile and auditory exploration, large print and enlarged illustrations.

I have also found some help in understanding what is happening with these children in the "differentiation theory" of perceptual learning proposed by J. J. Gibson and his wife. They believe that the process of perceptual learning is "one of learning what to attend to, both overtly and covertly. For the perception of objects, it is the detection of distinctive features and the abstraction of general properties. This almost always involves the detection of invariants under changing stimulation... The exploratory perceptual systems typically produce transformations so that the invariants can be isolated, and the action of the nervous system is conceived as a resonating to the stimulus information, not a storing of images or a connecting up of nerve cells."[3]

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[3] Gibson, J. J., The Senses Considered as Perceptual Systems. Houghton Mifflin Co., Boston, 1966. p. 270-271.

This theory has helped me shift my focus from the child's "storehouse of memory" and a consequent testing and probing to make sure that something is put away each day. As teacher, my focus rightly belongs on the child's learning how to attend and what to attend to. Then I listen and watch for what Gibson calls "resonating to stimulus information." This concept that the perceptual system resonates with the stimulus information available in the perceiver's surround is based on the assumption that a perceptual system "hunts" until it achieves clarity. Gibson cites the automatic feedback system of the focusing lens in the eye as one of the most obvious examples of this process. He suggests that this "hunt" for clarity is also characteristic at higher levels within the visual perceptual system. Again, my observation of low vision children seems to corroborate the theoretical position I have referred to here. Also it suggests, as Neisser's description of the processes of vision did, that access to stimuli and time for processing are the variables which the teacher can most fruitfully manipulate in his attempt to raise the efficiency of the child's perception of his environment.

Gibson's theory also stresses the validity of a common reality available to all of us. This suggests that teachers of low vision can assume that the world their students perceive is the same as the one we all perceive. At first this may seem a frivolous point. Yet from my experience with parents and teachers who have not worked with low vision children, it seems essential to continually bring the point to their attention. I once heard the father of one of our students say, "I guess we'll never understand how he sees the world." The boy, an eight-year-old, has an acuity score of 20/100 in either eye and can usually sink one out of five throws of a basketball in the schoolyard basket. He reads regular print. His "entry ports" are such that I am certain he can make perceptions that have "good correspondence with the environment."

Expectations that the low vision children have somehow a thoroughly distorted and limited "picture" of the real world lead to an attitude that often limits the full development of all the processes available to these children. I am not implying that there is some promise of dramatic physiological growth and development in increased visual behavior. I am suggesting that the attitudes and expectations of those who interact with low vision children are variables that have great influence on the visual efficiency of these children. These attitudes and expectations, in contrast to many other variables, are open to change.

Natalie Barraga's study, The Increased Visual Behavior of Low Vision Children, appears to support my point of view. Children who have been expected to perceive through a peephole, seeing a picture limited and distorted in an absolute sense, do show an increase in visual efficiency as their access to the visual world, through their expanded opportunity to learn, is increased. It follows that, as teachers, our responsibility is to help all people who interact with low vision children to arrive at a level of sophistication about visual processes that will supplant an attitude that is at worst pessimistic and at best misguided.

Most of my observations that seem to corroborate the concepts that I have reviewed here have been of children with relatively minor hearing and language problems. Yet as I understand, through a little observation and some discussion, the visual behavior of many so-called "deaf-blind" children is such that the ideas that I have presented are relevant to these children also.

To arrive at an understanding of the level of visual efficiency at which these children operate is difficult. With little or no verbal communication a large source of information relative to the child's level of perception is cut off. This suggests that observation of non-verbal communication and motor behavior becomes the major source of information about the level at which the child is operating. We have found that 8 mm. motion picture photography and video tape recordings have been unusually helpful in arriving at a more complete and objective assessment of the visual potential of low vision children in our schools. This mode of observation would seem to be especially fruitful in observing visual-motor behavior of deaf-blind children in areas of basic need, such as food manipulation and mobility.

Concurrent with this and all other types of assessment of visual efficiency, there are two levels of action on which educators can operate that relate to the concept of the child's access to visual stimuli as a variable open to control. These levels of action are suggested by a consideration of the relationship of this concept to the approach to the learning situation called task analysis. The application to low vision is obvious, even in this cursory context.

First, an analysis of tasks that the child seems motivated to accomplish on his own may reveal ways to increase access to visual stimuli essential to these tasks. Given this access and increased perceptual power the child will move forward more quickly on his own to a higher level of visual behavior in accomplishing these tasks.

Second, a careful analysis of tasks demanded by the outer social environment and the relation of these tasks to present levels of visual efficiency may reveal special ways to set up increased access to the visual information involved.

If the task is sliced to a realistic level that is consistent with the child's vision and with his access to visual information, and if this approach is coordinated with the learning level of the child, desired behavior will more readily take place. Again, this is a shift in focus away from the internal problems of information storage (and attempts to test its extent) and toward the whole loop of interaction with the environment where variables are most apparent and more available to our control.

The interplay between assessment and action by the educator can also be thought of as a looping or, more accurately, a spiraling system. Assessment is constantly revised as the educator continuously observes the child's perceptual capabilities and general behavior. We often restrict our focus and tend to see only how children operate within our expectations. This is insufficient. Our expectations must change with our perceptions in a flexible way. To borrow Gibson's image, we must constantly strive toward a resonance with greater and greater clarity in our perceptions of the children with whom we work. Our expectations are never fixed and their case studies are never closed.

REGIONAL CENTERS
FOR
DEAF-BLIND CHILDREN

Donald R. Calvert, Chief
Project Centers Branch
Division of Educational Services
Bureau for Education of the Handicapped
United States Office of Education

The history of the education of deaf-blind children goes back many decades with names such as Samuel Gridley Howe, Laura Bridgman, Annie Sullivan, and Helen Keller standing out in the 19th century and the early 20th century. In the light of future historical perspective I believe the decade of the 1960's will emerge as a major turning point, a major saltation in the education of deaf-blind children. The outstanding events of this decade will have been the following:

1. The rubella epidemic of 1963, 1964 and 1965,
2. The strong movement into beginning remediation and education in the pre-school period,
3. A broadening of responsibility for the welfare of deaf-blind children to include public schools, colleges, hearing and speech centers, medical facilities, and especially increased acceptance of responsibility by schools and agencies serving the deaf,
4. A heightened public visibility of deaf-blind children and their problems through mass media, and
5. The active involvement of the U.S. Federal Government.

The epidemic of German measles began in 1963 on the East Coast, swept through the country during 1964, and continued abated on the West Coast in 1965. This seemingly benign viral disease left a cruel legacy of 20,000 to 30,000 children born with handicaps. The first table shows our estimates of the kinds of handicapped children that resulted.

Table I.

Handicapped Children in the United States from the Rubella Epidemic, 1963, '64, '65

12,000	Severe Hearing Loss
5,500	Severe Vision Impairment
1,250	Deaf-Blind
1,250	Mentally Retarded and/or Crippled
10,000	Mild to Moderate Impairments
30,000	Total Children

The papers and the background of speakers at this conference reflect both the broadening of responsibility for the welfare of deaf-blind children and the movement toward beginning remediation and education in the pre-school period. Deaf-blind children and their problems have become much more visible to the public through films such as Children of the Silent Night and The Miracle Worker, through TV productions, and through other means of public media.

During this decade, also, the Federal Government has become actively involved in providing help for deaf-blind children and their parents. With the impetus of the rubella epidemics, a National Committee for

Deaf-Blind Children was formed and met in the fall of 1966 to begin discussions about the role of the Federal Government. The task was a formidable one with an estimated 2,000 deaf-blind children in the country but with an educational system which was equipped to work with 100 to 150 children. The next table shows our estimates of the deaf-blind children in the United States today.

Table II.

Deaf-Blind Children in the United States
June 1969

125	school age children in appropriate educational placement
425	school age but not in appropriate educational placement
1,250	pre-school age
1,800	Total Children

The costs of giving a deaf-blind child a full education and rehabilitation program have been estimated at from $12,000 to $15,000 per year. If the nearly 2,000 deaf-blind children in this country were given this full service, the costs would be $24 to $30 million annually, plus the costs of new construction. Even if such funds were readily available, hundreds of new teachers would be needed before education programs could begin.

The National Advisory Committees originally recommended that two national centers be built, one for deaf-blind youth and adults, and one for deaf-blind children. The plans for the National Center for Deaf-Blind

Youth and Adults has continued much as it was originally conceived and a grant will be made this summer to establish such a Center on the East Coast.

The concept of the center for deaf-blind children, however, underwent considerable modification through discussion of the committees and other interested persons. Its emphasis was shifted from rehabilitation toward education. Several center locations were considered to take into account the shift of population westward and the movement toward keeping children near their homes. A variety of services, seldom found within one agency, was considered to be needed for the complex problems that deaf-blind children presented. And, finally, the money to be immediately available through Federal support was unlikely to be sufficient to meet the demand by itself.

These considerations emerged in the passage of Public Law 90-247 on January 2, 1968, which amended Title VI of the Elementary and Secondary Education Act of 1965. This new Act set up section B of Title VI to include funds for Regional Resource Centers for handicapped children and their teachers, section D to provide grants for teacher recruitment and information dissemination, and section C which provided for the establishment of Centers and Services for Deaf-Blind Children. The authorization for the deaf-blind program was $1 million for 1968, $3 million for 1969, and $7 million for fiscal year 1970. However, there is many a slip betwixt the authorization cup and the appropriation lip so that no money was available in 1968, only $1 million was appropriated for 1969, and no more than $2 million is likely for 1970. The first grant awards were given in

April, 1969, 5 full years after the peak of the rubella epidemic.

Title VI Part C of the Elementary and Secondary Education Act is especially noteworthy because it deals directly with programs for multi-handicapped children. The discussion in the Congressional hearings, the framing of the Act, the writing of regulations, the development of policies and procedures, and the selection of Centers reflects a great deal of thinking about the unique problems of multi-handicapped children. The evolvement of the program emobidies some important assumptions which might be considered guiding principles in programs for multi-handicapped deaf-children or for any multi-handicapped children. These are as follows:

1. Deaf-Blind children are not a homogenous, monolithic group.
2. Deaf-Blind children need a variety of educational environments.
3. They need an opportunity for change in placement with time and training.
4. The parents and families need to be closely involved.
5. A comprehensive effort is needed to meet the problem.
6. There is need for professional responsibility to the child rather than to an institution.
7. A wide variety of services are needed, centered around the educational program.
8. A variety of approaches is desirable.
9. A number of resources are already present if utilized and coordinated.
10. No one agency can cover all costs or provide all services.

First, deaf-blind children are not a homogeneous group. The definition of a deaf-blind child under this Act reflects a great deal of flexibility in children who qualify. "--the term 'deaf-blind child' means a child who has both auditory and visual impairments, the combination of which causes such severe communication and other developmental and educational problems that he cannot properly be accommodated in special educational programs either for the hearing handicapped child or for the visually handicapped child." In this definition, no mention is made of either the kind or degree of visual or auditory impairment, so that children with profound deafness and mild to moderate visual impairment could be included along with children with total blindness and a mild to moderate hearing loss. No mention is made of the presence or absence of other accompanying handicaps so that a child with a number of serious problems could be included. Age is open from birth through school age. The population thus covered is not one for which easy generalizations can be made.

Second, deaf-blind children need a variety of educational environments. The primary educational placement for children supported by this act may range from a class for blind children or for deaf children with special tutoring or supportive services to a limited educational program for the child in his home. Situations in between may include special classes for deaf-blind children, special instruction in classes for children with other handicaps, or any other situation that is suitable for a particular child at a particular time.

Third, there is need of the opportunity for change in placement with time and training. The Act requires that children be given periodic evaluations and that educational placement be in accordance with these.

Thus a child with training and maturity may move from a special class for deaf-blind children to a class for deaf children or blind children with supplementary help, or he may move from an environment with a limited educational program to a special class for deaf-blind children.

Fourth, the parents and families need to be closely involved. The Act provides for effective consultative services to be available to parents and other family members. It also provides for inservice training so that parents can learn to work effectively with their own children at home. There are no restrictions on the possibilities of involving families.

Fifth, a comprehensive effort is needed to meet the problem. In addition to the required services of evaluation, education, and consultation, the Act provides support for a wide range of activities including research concerning service to deaf-blind children and the training of personnel which may include potential teachers, administrators, parents, teacher's aides, professional and allied personnel who give service to deaf-blind children, houseparents and others. The Act also supports dissemination of materials and information, and demonstration of new and improved methods of helping deaf-blind children. Thus a number of avenues can be developed which lead to a comprehensive effort in meeting the problem.

Sixth, there is need for professional r4sponsibility to the child rather than to an institution. It is planned that the Coordinator of each Center will keep a current register of deaf-blind children in the Center service area and see that each child receives the services he needs, regardless of the agencies involved. There should be no "falling into the cracks" between agencies for children served through this Act. It is the responsibility of the Center Coordinator to work through the relations among agencies and the legal responsibilities of agencies to see that children are regularly evaluated, given appropriate educational placement, and supplied with needed services.

Seventh, a wide variety of services are needed, centered around the educational program. This Act is based on education and the belief that deaf-blind children have a potential which can be realized through an effective educational program. But "education", as used in the Act, is expanded to include orientation, adjustment and training in the fundamental activities of life such as learning to walk, to eat by oneself, and to relate to objects and people. In this effort a wide variety of services will be needed including examinations by diagnostic specialists such as audiologists, otologists, ophthalmologists, pediatricians, neurologists, psychologists and many others. Because of the variety of services needed, a wide variety of Participating Agencies will need to be involved in supplying services to each child, and thus be involved in the activities of the Center. Some services will be already available; others will have to be modified or newly developed by the Center.

Eighth, a variety of approaches is desirable. There is no single best way to provide help to deaf-blind children. Rather than fund a single national Center for deaf-blind children or insist on a special approach, the Act provides for the support of several Centers spread geographically throughout the country. The organizations which will serve as Coordinating Agencies for Centers include State schools for the blind, private schools for the blind, State Departments of Education, and a private hearing and speech center. Their approach and style of developing and coordinating services is expected to be different. The Act does not specify day or residential preference, nor does it require that certain methods or means of communication be followed. The nature of services and methods of providing services, therefore, should be different with each Center and each part of the country. A variety of models will thus be available from which we can learn more about successfully helping deaf-blind children.

Ninth, a number of resources are already present if utilized and coordinated. The "Center" may be viewed as an administrative structure or a focal point of professional responsibility, rather than a single building or campus. Each Center will serve a wide geographic area with participating agencies spread throughout this area. The essential features of the administrative structure are a Coordinating Agency which houses the Coordinator and manages the Federal grant money but which does not necessarily supply services, the Coordinator who has the professional responsibility for seeing that deaf-blind children are provided the services they need, a number of Participating Agencies which supply a variety of services to the whole region or to children within a local area, and an Advisory Committee consisting of representatives of Participating Agencies, other interested agencies, and interested individuals. In the utilization and coordination of services, the Center will seek to avoid unnecessary overlapping and duplication of facilities and effort. Where services are available, they will be utilized. Where they are not, they may be developed.

The tenth assumption is that no one agency can cover all costs or provide all services. This idea has already been introduced in the mention of a number of Participating Agencies giving services through the Center. Likewise, the funding of this comprehensive program must include multiple funding agencies. With the present and anticipated budget, it is abundantly clear that the Federal Government will not be able to support all needed services through this Act. However, there are a number of other sources of Federal funds which may be utilized by Center Participating Agencies through Title I, Title III, other parts of Title VI of the Elementary and Secondary Education Act, and the Handicapped Children's Early Education Assistance (P.L. 90-538); through research and training funds, and through funds for health services. There must also be funding at the local and State level, and through private sources to insure that there will be consistent and uninterrupted support for this program.

These assumptions or principles may provide a framework for planning services for other multi-handicapped deaf children. They are the product of the thinking of a number of people concerned with deaf-blind children both in and out of the Federal Government.

At the present time, there are eight Centers which have just been funded under this program for deaf-blind children. Figure 1. shows the locations of Coordinating Agencies and the area to be served by each.

AREA CENTERS FOR SERVICES TO DEAF-BLIND CHILDREN

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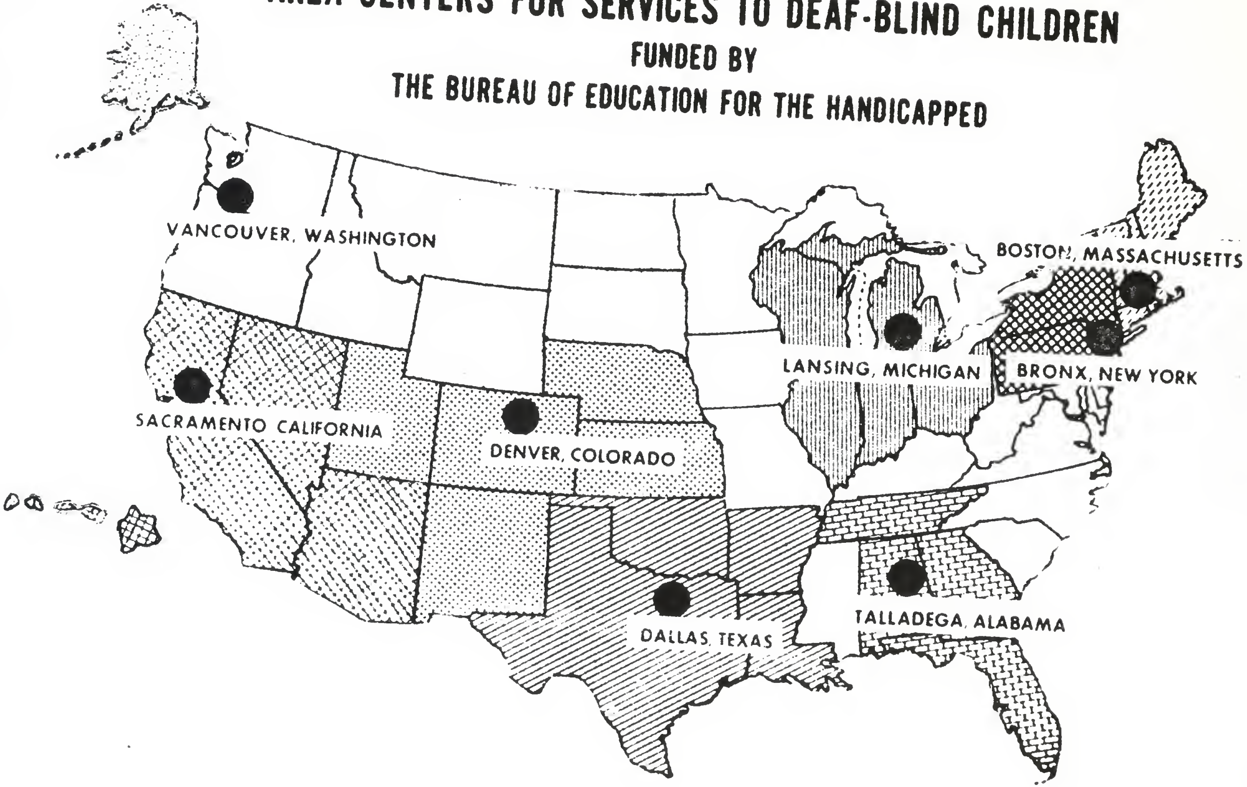

The Centers in Colorado, Texas, and Michigan are presently funded for planning and development of services for their region. The Centers in California, Washington, Alabama, New York and Massachusetts will do planning for their area but will begin with some operational funds for services during this year. At the end of the first year of planning and operation, the Coordinating Agencies may be changed and the States included in the region of service may also be changed, depending on the best situation as determined by the Coordinator and Advisory Committee for each Center. Forty-one states are covered by the eight Centers now funded. We hope to be able to fund two additional Centers next year to complete coverage of all 50 States and the District of Columbia.

IMPLICATIONS FOR TEACHER PREPARATION

Philip Hatlen
Associate Professor of Education
San Francisco State College

While not expressly stated, an implied purpose for this Institute concerned the necessity of serious consideration to future plans and approaches in the area of preparation of teachers for deaf-blind children. Throughout the Institute several factors became increasingly clear.

Traditional approaches to teacher preparation in the area of special education will not suffice in preparing teachers for work with pre-school deaf-blind children. The areas of emphasis as presented by many speakers and reinforced over and over again simply do not match the sequence of courses normally offered in teacher preparation programs.

Developmental teaching with pre-school deaf-blind children is a new field. There is almost no current writing on the subject. In fact, published material related to rubella deaf-blind children concentrates on two areas, etiology and description. From a practical standpoint, it is impossible to present a body of knowledge suitable for a college level teacher preparation program when one can only turn to writings in these two areas. The implication is that the core of any teacher preparation program at this time must rely on field experiences with children. Hopefully this publication represents the beginning of an era of writing related more to recommended curriculum and, therefore, adding a further dimension to the available literature in this area.

A glance at Dr. Calvert's statistics related to the numbers of children on a national level indicates how far short of preparing an adequate number of teachers we will fall. An optimistic estimate of the number of teachers graduating each year from the four teacher preparation programs in the United States might be thirty-five to forty. If the average pupil-teacher ratio for the United States is three to one, then we are in serious trouble.

Discussions at this Institute centered around two approaches to help alleviate this problem of lack of teachers. First, the use of in-service training is a technique in providing additional professional preparation for the teacher of deaf children or for the teacher of visually handicapped children hired as a teacher of deaf-blind children. In-service preparation could also be offered the nursery school teacher without training in either the area of the deaf or the visually handicapped or teachers previously prepared in a variety of other areas.

Another suggested approach to in-service training relates to the use of teaching aides. The emphasis throughout the presentations given at this Institute indicated the desperate need for one to one experiences for many of these children in numerous situations throughout the day. In order to provide a one to one ratio it obviously will be necessary to rely on persons other than the qualified teacher. No existing educational program will support a one to one pupil-teacher ratio. Therefore, teacher aides and volunteers must be considered in emerging programs.

It is not appropriate at this time to discuss in detail the recommended preparation of aides and volunteers for this type of service.

Suffice it to say that some pre-service and possibly in-service training must be made available to aides and volunteers, and this must be carefully considered prior to any program in which aides are an integral part.

What might provide part of the answer to the extremely serious problem of teacher shortage in education of deaf-blind children would be to provide one supervising teacher, well prepared in education of deaf-blind children, and have available to her and working under her direct supervision a number of aides providing as nearly as possible a one to one pupil-teacher ratio.

AN EMERGING CURRICULUM

Philip Hatlen
Associate Professor of Education
San Francisco State College

The reader who has carefully digested these proceedings has undoubtedly noted what might be rather generally described as an emerging curriculum. Certain approaches and certain areas of need have been stressed by more than one speaker. Indeed, some curricular areas have been repeated in almost every presentation. Emphases which might provide the groundwork for an emerging curriculum include:

1. Motor development - While this area is described in a variety of ways by contributors to these proceedings, there is no question that teachers of pre-school deaf-blind children found it necessary to include in their program much emphasis on developmental movement. In many cases the need for this was apparent by the fact that children were not walking at an age at which they developmentally should. Various approaches are described by the contributors to these proceedings, and it would not be appropriate to emphasize any one approach.

2. Visual stimulation - Other curricular areas presented which were reinforced by many contributors included the areas of visual stimulation and auditory stimulation.

3. Parent participation - All participants who were working with children at the pre-school level emphasized the need for parent participation in order to ensure as much as possible carry-over into the home of many of the activities done in the school setting.

4. The teacher must capitalize on interests in children, even those which might be negative.

5. Many speakers stressed early intervention with several indicating that two years of age was too late.

6. Intimate "primitive" physical contact with these children is important in establishing a good working relationship.

7. Pre-school deaf-blind children need intensive one to one teaching. However, they also need at an early age opportunities for interaction with other children.

8. A need for complete diagnostic facilities staffed by knowledgable people. Along with this point, it was stressed that visual and auditory assessments be done often and never be considered complete or final.

9. Communication is not only language. Pre-school deaf-blind children can and should learn to communicate in many ways. Gestures, use of remaining vision and hearing, and physical movement all can be used to develop a system of communication for the child.

10. Another area to be stressed with these children is use of their hands in manipulation and in eye-hand coordination tasks. Also, very simple basic tasks in tactual discrimination can be introduced at a pre-school level.

11. It is possible, and, in fact, may be advantageous to build a curricula program around day-to-day living activities such as eating.

While these points may seem obvious and represent nothing new to the reader, the different ways in which they were stressed and the techniques used in approaching some of these areas varied among presentations, and with a field so new there is no one among us who can authoritatively determine which techniques are correct and which are not, which areas need emphasis and which do not.

Those who participated in this Institute look upon it as a beginning, a beginning of an era of concern for a generation of children which we have never dealt with before, an era which requires our deepest concern, our most creative efforts, and probably our most broad interpretation and definition of education. Whether or not these children represent a one generation need (and we must all hope this is so), the opportunities to develop imaginative and creative approaches to working with multi-handicapped children will no doubt have far-reaching effects for many years to come.

Many Institute participants stressed the value, even the necessity, of annual meetings such as this. There is no question but that there is no better means of communication than those afforded by this type of institute. Many of us work in relative isolation with small groups of children in many corners of this country. The value of opportunities to share information is self-evident. Who will assume the responsibility for gathering us together in 1970?

APPENDIX

GUEST SPEAKERS

ABEL, Georgie Lee
Professor of Education
Dept. of Special Education
San Francisco State College
1600 Holloway Avenue
San Francisco, Calif. 94132

ASHURST, Donald I.
Superintendent
Diagnostic School for Neurologically Handicapped Children
Southern California
4339 East State College Drive
Los Angeles, Calif. 90032

BRANDT, Alice
Superintendent
Diagnostic School for Neurologically Handicapped Children
Northern California
Lake Merced Blvd. & Winston Dr.
San Francisco, Calif.

CALVERT, Dr. Donald
Chief
Projects Centers Branch
Division of Educational Services
United States Dept. of Health,
Education & Welfare
Washington, D. C. 20202

CAPUTO, Kathleen M.
Teacher - Deaf-Blind
Sunshine School
2730 Bryant Avenue
San Francisco, Calif.

CERIOTTI, Mary Ann
Supervisor
Pilot Program for Deaf-Blind Children
San Francisco Hearing & Speech Center
2340 Clay Street
San Francisco, Calif.

COCHRAN, Gloria Grimes, M.D.
Associate Director
Child Development Clinic
Texas Children's Hospital
6621 Fannin Street
Houston, Texas 77025

COOPER, Dr. Louis
Asst. Professor of Pediatrics
Director, Rubella Birth Defect Evaluation Program
New York University Medical Center
550 First Avenue
New York, New York 10016

CORNACCHIA, Miss Theresa
Educational Counselor
New Jersey Commission for the Blind
7 St. Luke's Place
Montclair, New Jersey 07042

EFRON, Joy
Coordinator
Program for Deaf-Blind Children
Los Angeles Unified School District
Box 3307, Terminal Annex
Los Angeles, Calif. 90054

ESCHE, Mrs. Jean
Teacher of Deaf-Blind Children
Michigan School for the Blind
Instructor
Michigan State University
715 W. Willow
East Lansing, Michigan

FERNANDEZ, Dr. Pauline B.
Clinical Psychologist
Psychiatric Hospital
New York University Medical Cen.
30th St. & 1st Ave. Rm. 523
New York, New York

HART, Verna
Assistant Professor
George Peabody College for Teachers
Nashville, Tennessee 37203

HATLEN, Philip H.
Associate Professor of Education
Dept. of Special Education
San Francisco State College
1600 Holloway Avenue
San Francisco, Calif. 94132

JACKSON, Miss Eileen
Associate Professor of Education
Dept. of Special Education
San Francisco State College
1600 Holloway Avenue
San Francisco, Calif. 94132

KAUFFMAN, Mrs. Janet M.
Itinerant Teacher
Visually Handicapped & Deaf-Blind
Tacoma Public Schools
8th & Tacoma Street
Tacoma, Washington 98401

KELLIS, Mr. Tom
Teacher of Visually Handicapped
Berkeley Unified School District
1414 Walnut Street
Berkeley, Calif.

LOWENFELD, Dr. Berthold
Former Superintendent
California School for the Blind
3001 Derby Street
Berkeley, Calif. 94705

MALONE, Miss Theresa
Teacher
Bellevue Hospital Experimental Pre-School
Rubella Birth Defect Evaluation Project
New York University Medical Cen.
550 Forst Ave.
New York, New York 10016

MYERS, Raymond S.
Consultant
Education Of Visually Handicapped Children
Oregon Board of Education
Public Service Building
Salem, Oregon 97310

PATT, Mrs. Edith
Supervisor
Children's Services
Industrial Home for the Blind
57 Willoughby Street
Brooklyn, New York

STRICKLIN, Miss Helen
Supervisor
Program for Visually Handicapped
Portland Public Schools
220 N.E. Beech Street
Portland, Oregon 97212

VIVIAN, Mrs. Rose M.
Principal
Deaf-Blind Department
Perkins School for the Blind
Watertown, Massachusetts 02172

WALKER, Mr. Roger
Assistant Principal
The New York Institute for the Education of the Blind
999 Pelham Parkway
Bronx, New York 10469

WELCH, Mr. Donald A.
Coordinator
Project "MH"
Azusa Unified School District
Azusa, Calif.

WILCOX, Dr. Everett
Superintendent
California School for the Blind
3001 Derby Street
Berkeley, Calif. 94705

WRIGHT, Mrs. Elizabeth
Psychologist
Special Education Programs
Oakland Unified School District
Oakland, California

PARTICIPANTS

AKESON, Nancy
Home Counselor
Variety Club Blind Babies Foundation
90 Golden Gate
San Francisco, Calif.

BANTA, Elizabeth
Coordinator of Services for Pre-School Deaf-Blind Children
Perkins School for the Blind
Watertown, Massachusetts

BERHOW, Byron
Superintendent
Washington State School for the Blind
2214 E. 13, P.O. Box 1865
Vancouver, Washington 98663

BLEA, Dr. William
Project Director
Regional Center for Deaf-Blind Children
State Dept. of Education
Sacramento, Calif. 95814

BRIGGS, Mrs. Susan
Teacher - Hard of Hearing
Palo Alto Unified School District
Palo Alto, Calif. 94306

BROWN, Janet
Visiting Teacher
Field Service Pre-School Blind Children
217 W. First Street
Los Angeles, Calif.

CARR, Evelyn
Teacher - Counselor
Field Service Pre-School Blind Children
217 W. First Street
Los Angeles, Calif.

CHAMPION, Richard
Consultant, Visually Handicapped
Colorado Dept. of Education
430 State Office Building
Denver, Colorado

CHANDLER, Geraldine
Teacher - Visually Handicapped
Palo Alto Unified School District
Dept. of Visually Handicapped
Palo Alto, Calif.

CYPHERS, Ron
Coordinator, Southeast Regional Center for Deaf-Blind Education
Alabama Institute for the Deaf-Blind
Talladega, Alabama

DAS, Khogendra N.
Director, Deaf-Blind Department
New York Institute for the Education of the Blind
999 Pelham Parkway
Bronx, New York 10469

DE VERE, Iris
Home Teacher - Deaf-Blind
Pre-School Teacher
Portland Public Schools
220 N.E. Beech
Portland, Oregon

DODSON, Susan
Teacher - Clinician
Language Therapist for Multi-Handicapped
Houston Speech & Hearing Center
1343 Moursund Avenue
Houston, Texas

ELLIS, Wanda
Teacher - Visually Handicapped
Pasadena Indp. School District
Pasadena, Texas 77502

FORTIN, Dalma
Director/Teacher
Multi-Handicapped Diagnostic &
Therapeutic Nursery Class
Child Development Clinic
Texas Children's Hospital
6621 Fannin Street
Houston, Texas 77025

GALLOWAY, Anne
Itinerant Teacher - Visually
Handicapped
Azusa Unified School District
Azusa, Calif.

GREENLEAF, Evelyn
Teacher - Deaf-Blind
California School for the Blind
3001 Derby Street
Berkeley, Calif.

HARNESS, Beth
Pre-School Counselor
Variety Club Blind Babies
Foundation
90 Golden Gate
San Francisco, Calif.

HEYWOOD, Dr. Harold
Director, Pupil Personnel Serv.
Azusa Unified School District
546 South Citrus Avenue
Azusa, Calif. 91702

HICKS, Doin
Associate Director, Head
Educational Division of
Callier Hearing & Speech Center
1966 Inwood Road
Dallas, Texas 75235

HIGINBOTHAM, Pearl W.
Teacher - Mentally Retarded
Blind Children
School Department
Sonoma State Hospital
Eldridge, Calif. 95431

JOHNSON, Carol
Teacher - Pre-School Deaf-Blind
Children
Perkins School for the Blind
Watertown, Massachusetts 02172

KASHMANIAN, Vahram
Director - Educational Services
1100 Raymond Blvd.
Newark, New Jersey

KNIGHT, Laura
Teacher Aid - Deaf-Blind
Sunshine School
2730 Bryant Avenue
San Francisco, Calif.

KURZROK, Dr. Milton
Medical Director
Diagnostic School for Neurologically
Handicapped Children
Lake Merced Blvd. & Winston Dr.
San Francisco, Calif.

LANQUIST, Gisela
Teacher - Deaf-Blind
California School for the Blind
3001 Derby Street
Berkeley, Calif.

LATIMER, Gary D.
Teacher - Consultant
Programs for Visually Handicapped
Special Education Diagnostic Center
4558 N. Hydraulic
Wichita, Kansas 67219

LAWSON, Page
Pre-School Supervisor
Houston-Harris County Lighthouse for
the Blind - Children's Division
5209 Pocahontas
Bellaire, Texas

LEMONDS, Sue
Teacher - Acoustically Handicapped
Palo Alto Unified School District
Palo Alto, Calif.

LITYNSKY, Mark
Research Association
San Francisco Hearing & Speech
Center
2340 Clay Street
San Francisco, Calif. 94115

LOUIE, Carolyn J., O.T.R.
Marindale School for Orthopedically Handicapped
Therapy Department
850 Del Ganado Road
San Rafael, Calif. 94903

MELLOTT, Sharon L.
Mother of Deaf-Blind Pre-School
Child
985 Heatherstone Way
Sunnyvale, Calif. 94087

MISBACH, Dorothy L.
Consultant in Education of
Visually Handicapped
State Department of Education
Sacramento, Calif. 95814

MORIARITY, Don
Project Coordinator
Rocky Mtn. Center for Deaf-Blind
Division of Special Educational
Services
State Office Building
Denver, Colorado 80203

RANSOM, Glenyce
Teacher - Deaf & Hard of Hearing
Azusa Unified School District
546 South Citrus Avenue
Azusa, Calif. 91702

ROBBINS, Nan
Perkins School for the Blind
Watertown, Massachusetts

ROZELLE, Judith
Psychologist
Houston-Harris County Lighthouse
for the Blind - Children's Div.
Houston, Texas 77019

SAUNDERS, Margaret
Social Worker - Counselor
Variety Club Blind Babies Found.
7524 Winding Way
Fair Oaks, Calif.

SHOOK, Cecile
Teacher - Pre-School Deaf & Deaf-Blind
San Francisco Hearing & Speech
Center
2340 Clay Street
San Francisco, Calif. 94115

STENQUIST, Gertrude
Perkins School for the Blind
Watertown, Massachusetts

STONE, Jorenda R.
Speech Pathologist
Child Development Clinic
6624 Fannin
Houston, Texas

SWEENEY, Joan
Consultant - Education of Visually
Handicapped
State Department of Education
Los Angeles, Calif.

TAYLOR, Josephine
Bureau of Education for the Handicapped
U.S. Office of Health, Education &
Welfare
7th & "D" Streets, Southwest
Washington, D.C.

TOLLIVER, Theda
Counselor
California School for the Blind
3001 Derby Street
Berkeley, Calif.

WALDEN, Florine
Foster Parent for Deaf-Blind Children
1238 - 43rd Avenue
San Francisco, Calif.

WEIL, Natalie
Teacher - Pre-School Deaf-Blind
Gallinas School
San Pedro Road
San Rafael, Calif.

WILCOX, Beverly
Home Counselor
Variety Club Blind Babies Foundation
90 Golden Gate
San Francisco, Calif.

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